GRELL

GRELL 2021
12-14th May 2021
Luxembourg

45th Annual Meeting of the Group of Cancer Epidemiology and Registration in Latin Language Countries

ABSTRACT BOOK

www.grell-network.org

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du Cancer | Lux

LE GOUVERNEMENT
DU GRAND-DUCHÉ DE LUXEMBOURG
Ministère de la Santé

Direction de la santé

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LE GOUVERNEMENT
DU GRAND-DUCHÉ DE LUXEMBOURG
Ministère de la Santé

Direction de la santé

Ladies and gentlemen,
Dear members of the GRELL,

We would like to welcome you warmly to the 45th annual GRELL meeting, organised for the first time by the National Cancer Registry of Luxembourg. It would have been our pleasure to guide you through the Grand Duchy of Luxembourg, one of the smallest sovereign states in Europe and the last Grand Duchy in the world, but the current health situation has decided differently.

Due to the current pandemic worldwide, we decided to transform the GRELL 2021 into a virtual conference and we are pleased to invite you to this first 100% virtual GRELL meeting in 2021. Now more than ever, we needed a meeting to bring together our entire international audience. Our GRELL 2021 conference will be an opportunity to reach a wider audience, with live and recorded broadcast for participants joining the conference from different time zones.

We have developed an attractive programme, starting with a webinar on COVID-19 and Cancer, followed by a two-day conference, including two keynote speaker sessions on “childhood and adolescent cancers”, 29 oral presentations and 78 e-Poster carefully selected by the GRELL 2021 Scientific Committee. The digital conference platform offers also virtual exhibition stands and multiple means of communication, which will dynamise discussions and exchanges between all participants.

To provide a flavor of the Grand Duchy of Luxembourg for those who never visited the country so far, we would like to take you on a virtual tour of this small country with a particularly rich history. Luxembourg has three official languages (Luxembourgish, French and German) and more than 50% of its population are foreign residents of some 170 nationalities. The city of Luxembourg (Stad Lëtzebuerg) offers amazing architecture with UNESCO World Heritage sites, the headquarters of many European and international institutions, the Grand Ducal Palace, the mighty Luxembourg Fortress, its remarkable museums and much more. Let yourself be captivated by our videos on Luxembourg.

Thank you for joining this new 100% virtual experience.

We would like to warmly thank Her Royal Highness Maria Teresa, the Grand Duchess of Luxembourg for having accepted to join the Webinar on COVID-19 and cancer with an opening statement. Our sincere gratitude goes to the Luxembourg Minister of Health, Paulette Lenert featuring an opening speech during the first day of the panel conference.

We would like to dedicate this GRELL 2021 conference to Dr Michel Untereiner, who was the Scientific Director of the RNC from January 1, 2013 to March 11, 2021.

Yours sincerely,
Äddi (See you soon in Luxembourgish).

DR. SOPHIE COUFFIGNAL
Membre du Steering Committee du GRELL
Responsable opérationnelle du RNC

DR. CLAUDINE BACKES
Présidente du comité d’organisation
du GRELL 2021, Epidémiologiste du RNC

LE COMITÉ D’ORGANISATION DU GRELL 2021

Mesdames, Messieurs, chers membres du GRELL,

Nous vous souhaitons la bienvenue à la 45ème réunion annuelle du GRELL organisée pour la première fois par le Registre National du Cancer du Grand-Duché du Luxembourg (RNC). Avec notre plus grand plaisir nous aurions aimé vous guider à travers le Luxembourg, l'un des plus petits États souverains d'Europe et le dernier Grand-Duché au monde, or la situation sanitaire actuelle en a décidé autrement.

A l'ère de cette pandémie, le digital s'est imposé et est devenu notre meilleur allié. C'est ainsi que nous avons décidé de transformer la conférence du GRELL 2021 en une version 100% virtuelle.

Aujourd'hui plus que jamais, nous avions besoin d'une réunion pour rassembler l'ensemble de notre audience internationale. Notre conférence du GRELL 2021 sera l'occasion de toucher un public plus large, avec une diffusion en direct et en différé pour les participants se trouvant dans des fuseaux horaires différents.

Nous avons développé un programme attrayant, commençant par un Webinar sur le COVID-19 et le cancer, suivi d'une conférence de deux jours, et comprenant 4 sessions plénières avec des conférenciers invités, 29 présentations orales et 78 e-Poster soigneusement sélectionnés par le Comité Scientifique du GRELL 2021. Les e-Posters seront présentés par leurs auteurs et des stands d'exposition virtuels seront également mis à votre disposition. Cette plateforme digitale nous offre de multiples moyens de communication, qui vont dynamiser nos échanges et nos rencontres.

A défaut d'être physiquement au Luxembourg, nous avons souhaité vous faire visiter virtuellement ce petit pays, qui, avec trois langues officielles (luxembourgeois, français et allemand) et plus de 50% sont des résidents étrangers de quelque 170 nationalités, est une plaque tournante cosmopolite et dynamique, avec une histoire particulièrement riche.

Entre histoire et modernité, la capitale du pays, la ville de Luxembourg (Stad Lëtzebuerg) offre une architecture surprenante avec ses sites du patrimoine mondial de l'UNESCO, les sièges de nombreuses institutions européennes et internationales, le Palais Grand-ducal, la puissante forteresse de Luxembourg, ses musées remarquables et bien plus encore. Amoureux de la nature et de l'histoire, laissez-vous séduire par nos vidéos sur le Luxembourg.

Nous remercions chaleureusement Son Altesse Royale la Grande-Duchesse du Luxembourg d'avoir accepté d'exprimer ces mots de bienvenue lors du Webinair sur le COVID-19 et le cancer. Nous exprimons nos sincères remerciements à la Minsitre de la Santé du Luxembourg, Paulette Lenert, qui a prononcé un discours d'ouverture lors de la première journée de la conférence.

Nous désirons dédier cette conférence du GRELL 2021 au Dr Michel Untereiner, qui a été le Responsable scientifique du RNC du 1er janvier 2013 au 11 mars 2021.

Merci de vous joindre à cette nouvelle expérience 100% virtuelle.

Avec nos meilleures salutations,
Äddi (A bientôt en Luxembourgeois).

DR. SOPHIE COUFFIGNAL
Membre du Steering Committee du GRELL
Responsable opérationnelle du RNC

DR. CLAUDINE BACKES
Présidente du comité d'organisation
du GRELL 2021, Epidémiologiste du RNC

LE COMITÉ D'ORGANISATION DU GRELL 2021

Programme at a glance

Wednesday, May 12th
WEBINAR: COVID-19 and Cancer

Welcoming words and housekeeping issues Opening Words on COVID-19 and Cancer	14:00-14:10
Keynote Speaker Session 1: COVID-19 and Cancer	14:15-15:05
Networking Break	15:05-15:20
Keynote Speaker Session 2: COVID-19 and Cancer	15:20-16:10
Networking Break	16:10-16:25
Panel Session: COVID-19 and Cancer	16:25-17:05
Closing Remarks	17:05-17:20

Thursday, May 13th
DAY 1: Virtual Conference

09:00-09:45	Opening Words & Welcome of Day 1 Opening Words on Cancer
09:45-10:00	Networking Break
10:00-10:50	**Keynote Speaker Session 1: Childhood cancer**
10:50-11:05	Networking Break
11:05-11:45	**Panel Session 1: Social Inequalities and Cancer**
11:45-12:30	**e-Poster Session and Networking Break**
12:30-13:30	Lunch break
13:30-14:00	General Assembly – Future directions for GRELL
14:00-14:50	**Keynote Speaker Session 2: Cancer in Adolescents and Young Adults**
14:50-15:05	Networking Break
15:20-16:00	**Panel Session 2: Hemato-Oncology**
16:00-16:30	**e-Poster Session and Networking Break**
16:30-16:40	Closing remarks of Day 1 and announcement of SC GRELL members
16:40-17:40	Closed meeting SC GRELL

Friday, May 14th
DAY 2: Virtual Conference

Opening Words & Welcome of Day 2	09:00-09:25
Panel Session 3: Epidemiological Use of Cancer Registry Data	09:25-10:05
Networking Break	10:05-10:20
Panel Session 4: Epidemiological Use of Cancer Registry Data	10:20-11:00
e-Poster Session and Networking Break	11:00-12:00
Lunch Break	12:00-14:00
Panel Session 5: Clinical Use of Cancer Registries Data	14:00-14:40
Networking Break	14:40-14:55
Panel Session 6: New Methods in Cancer Registries	14:55-15:35
e-Poster Session and Networking Break – Break out groups	15:35-16:00
Presentation of the next GRELL meeting 2022 – Pamplona (Spain)	16:00-16:30
Young researcher award (e-Poster and oral presenters) ceremony	
Closing of the GRELL 2021	

Programme in detail

Wednesday, May 12th

WEBINAR: COVID-19 and Cancer

LEGEND

◀ *Click article to get more details*

14:00-14:10

Welcoming words and housekeeping issues

Moderators: *Dr. Emanuele Crocetti, President of the GRELL and Italy representative, Dr. Sophie Couffignal, GRELL Steering Committee Luxembourg Representative & Dr. Claudine Backes, National Cancer Registry of Luxembourg*

Opening Words on COVID-19 and Cancer

Her Royal Highness the Grand Duchess of Luxembourg Maria Teresa

Break

14:15-15:05

Keynote Speaker Session 1: COVID-19 and Cancer

Moderators: *Dr. Emanuele Crocetti, President of the GRELL and Italy representative & Dr. Guy Berchem, Institut National du Cancer (INC) Luxembourg*

COVID-19 and Cancer: Clinical challenges

Prof. Gilbert Massard, Director of Medical Education, University of Luxembourg, Esch-sur-Alzette, Grand-Duchy of Luxembourg

The effect of the COVID-19 pandemic on cancer incidence and cancer registration (part 1)

Dr. Otto Visser, Director of the Netherlands Cancer Registry, ENCR Chairperson, The Netherlands

Q&A

15:05-15:20 *Networking Break*

15:20-16:10

Keynote Speaker Session 2: COVID-19 and Cancer

Moderators: *Dr. Pascale Grosclaude, Secretary of the GRELL and France representative & Dr. Aurélie Poli, Luxembourg Institute of Health (LIH)*

The effect of the COVID-19 pandemicon cancer incidence and cancer registration (part 2)

Dr. Liesbet Van Eycken, Director of the Belgian Cancer registry, Belgium & Representative of IACR at the ENCR Steering Committee

The Central and South American cancer registries challenges during the COVID-19 pandemic

Prof. Luis Eduardo Bravo, Department of Pathology, University of Valle, Cali & Director of the Cali Cancer Registry, Colombia

Q&A

16:10-16:25 *Networking Break*

16:25-17:05

Panel Session: COVID-19 and Cancer

Moderators: *Dr. Pascale Grosclaude, Secretary of the GRELL and France representative & Dr. Carole Bauer, Fondation Cancer Luxembourg*

OP_1

Impact of COVID-19 on cancer diagnosis and treatments: nationwide data from Luxembourg

Dr. Claudine Backes, Luxembourg Institute of Health (LIH) & Prof. Michel Mittelbronn Laboratoire National de Santé (LNS), Luxembourg

OP_2

How long people wait to consult for cancer symptoms before and after the coronavirus pandemic: Implications for cancer diagnoses and outcomes

Dr. Dafina Petrova, Ciber Of Epidemiology And Public Health. Cancer Registry Of Granada. Andalusian School Of Public Health, Spain

OP_3

Did COVID-19 pandemic changed the pursuit for early diagnosis and delayed the onset of cancer treatment? A statistical study of registered cases at Portuguese Cancer Institute of Lisbon

Alexandra Mayer-da-Silva, National Cancer Registry (RON) – Portuguese Cancer Institute of Lisbon, Portugal

Q&A

17:05-17:20

Closing Remarks

Dr. Emanuele Crocetti, President of the GRELL

Conclusions

Thursday, May 13th

DAY 1: Virtual Conference

LEGEND

Click article to get more details

09:00-09:45

Opening Words & Welcome of Day 1

Moderators: *Dr. Emanuele Crocetti, President of the GRELL and Italy representative, Dr. Sophie Couffignal GRELL Steering Committee Luxembourg Representative & Dr. Claudine Backes, National Cancer Registry of Luxembourg*

Opening Words on Cancer

The Health Minister of Luxembourg, Paulette Lenert

09:45-10:00 *Networking Break*

10:00-10:50

Keynote Speaker Session 1: Childhood Cancer

Moderators: *Dr. Gemma Gatta GRELL Steering Committee Italy Representative & Anne Goeres, Fondatioun Kriibskank Kanner Luxembourg*

Cancer registration: a cornerstone of the WHO Global Initiative for Childhood Cancer

Dr. Eva Steliarova-Foucher, Childhood Cancer Leader, Cancer Surveillance Branch, International Agency for Research on Cancer (IARC), Lyon, France

Understanding international variation in childhood cancer survival rates: the BENCHISTA project

Prof. Kathy Pritchard-Jones, President of the International Society of Paediatric Oncology (SIOP) and Professor of Paediatric Oncology, University College London (UCL), Great Ormond Street Institute of Child Health, London, UK

Q&A

10:50-11:05 *Networking Break*

11:05-11:45

Panel Session 1: Social Inequalities and Cancer

Moderators: *Dr. Paolo Contiero, GRELL Steering Committee Italy Representative & Prof. Aline Müller, Luxembourg Institute of Socio-Economic Research (LISER)*

OP_4

Evolution of socioeconomic inequalities in cancer incidence in France: a longitudinal study

Krystaelle Derette, Institut national de la santé et de la recherche médicale (Inserm), France

OP_5

What implications can be expected from lack of deprivation-specific life tables in France on the results of studies investigating the social gradient in cancer net survival?

Laure Tron, Institut national de la santé et de la recherche médicale (Inserm), France

OP_6

Sex-specific trends in lung cancer incidence and survival over 1990-2018

Dr. Patricia Delafosse, Registre Du Cancer De L'isère, France

Q&A

11:45-12:30

e-Poster Session and Networking Break

12:30-13:30 *Lunch break*

13:30-14:00

GENERAL ASSEMBLY:

Future directions for GRELL

14:00-14:50

Keynote Speaker Session 2: Cancer in Adolescents and Young Adults

Moderators: *Dr. Brigitte Lacour, Registre National des Tumeurs Solides de l'Enfant, Nancy, France & Anne Goeres, Fondatioun Kriibskank Kanner Luxembourg*

Putting Adolescents and Young Adults (AYA) under spotlight

Dr. Andrea Ferrari, Pediatric Oncology Unit, National Cancer Institute (INT), Milan, Italy

Classifications of cancers in adolescents and young adults and their implications

Prof. Ronald Barr, McMaster University, Hamilton, Ontario, Canada & Prof. Archie Bleyer, Knight Cancer Institute of the Oregon Health & Science University, Portland, Oregon, USA

Q&A

14:50-15:05 *Networking Break*

15:20-16:00

Panel Session 2: Hemato-Oncology

Moderators: *Dr. Alain Monnereau, Registre des Hémopathies Malignes de la Gironde, Bordeaux, France & Dr. Eva Ardanaz GRELL Steering Committee Spain Representative*

OP_7

Real world population-based study oftreatment-modalities of Diffuse Large B-Cell Lymphoma in Belgium: focus on the older population

Dr. Hélène Antoine-Poirel, Belgian Cancer Registy, Belgium

OP_8

Incidence of myeloid neoplasms in Spain (2002-2013): a population--based study of the Spanish Network of Cancer Registries (REDECAN)

Dr. Rafael Marcos-Gragera, Catalan Institute Of Oncology, Spain

OP_9

Population-based incidence of lymphoid neoplasms in Tarragona, Catalonia, Spain (2006-2015)

Clàudia Pla, del Registre de Càncer de Tarragona, Servei D'epidemiologia, Prevenció Del Càncer, Hospital Universitari Sant Joan De Reus, Spain

Q&A

16:00-16:30

e-Poster Session and Networking Break

16:30-16:40

Closing remarks of Day 1 and announcement of SC GRELL members

Dr. Emanuele Crocetti, President of the GRELL

16:40-17:40

Closed meeting SC GRELL

Friday, May 14th

Day 2: Virtual Conference

LEGEND

☞ ◀ *Click article to get more details*

09:00-09:25

Opening Words & Welcome of Day 2

New president of the GRELL, Dr. Sophie Couffignal GRELL Steering Committee Luxembourg Representative & Dr. Claudine Backes, National Cancer Registry of Luxembourg

Presentation Luxembourg National Research Fund (FNR)

Dr. Sean Sapcariu, Programme Manager at the Luxembourgish National Research Fund (FNR)

Conquering cancer: Mission possible

Prof. Walter Ricciardi, President of the Horizon Europe Mission Board for Cancer

09:25-10:05

Panel Session 3: Epidemiological Use of Cancer Registry Data

Moderators: *Dr. Sophie Couffignal GRELL Steering Committee Luxembourg Representative & Dr. Rita Silva Calisto Instituto Português de Oncologia do Porto, Portugal*

OP_10

Long-term estimates of cancer incidence and mortality in EU by different demographic scenarios: a comparison between GRELL and other EU countries

Dr. Giorgia Randi, Scientific Project Officer, European Commission – Joint Research Centre (JRC), Ispra, Italy

OP_11

Estimation of the prevalence of cancer in Spain, 2020

Dr. Jaume Galceran, del Registre de Càncer de Tarragona. Servei D'epidemiologia, Prevenció Del Càncer, Hospital Universitari Sant Joan De Reus, Spain

OP_12

Risk of thyroid as a first or second primary cancer. A population-based study in Italy, 1998-2012

Veronica Mattioli, Centro Di Riferimento Oncologico, Italy

Q&A

10:05-10:20 *Networking Break*

10:20-11:00

Panel Session 4: Epidemiological Use of Cancer Registry Data

Moderators: *Dr. María José Sánchez-Pérez, GRELL Treasurer and GRELL Steering Committee Spain Representative & Dr. Julie Francart, GRELL Steering Committee Belgium Representative*

OP_13

Indicators of standard care for skin melanoma, computed by combining Cancer Registry information and administrative health data in Veneto.First results from the iPAAC 7.2 Pilot Study

Dr. Roberto Lillini, Fondazione Irccs, "Istituto Nazionale Dei Tumori, Milano, Italy

OP_14

A Birth Cohort Analysis of the Incidence of Papillary Thyroid Carcinoma in Algerian Women, 1993-2013

Dr. Houda Boukheris, University Abderrahmane Mira of Bejaia, Algeria

OP_15

Incidence trends of vulvar squamous cell carcinoma in Italy from 1990 to 2015

Dr. Silvia Mancini, Romagna Cancer Registry, Italy

Q&A

11:00-12:00

e-Poster Session and Networking Break – Break out groups

12:00-14:00 *Lunch break*

14:00-14:40

Panel Session 5: Clinical Use of Cancer Registries Data

Moderators: *Dr. Jacqueline Deloumeaux, GRELL Steering Committee France Representative, Dr. Isabelle Konzelmann, GRELL Steering Committee Switzerland Representative*

OP_16

Variation in anatomic location by sex and survival from malignant melanoma of the skin in the GRELL countries

Veronica Di Carlo, London School of Hygiene and Tropical Medicine, The United Kingdom

OP_17

Impact of pregnancy on tumor characteristics and prognosis among young women diagnosed with breast cancer in Geneva

Dr. Romain Schaffar, University of Geneva, Switzerland

OP_18

Decreasing Breslow tumour thickness and enhanced treatment have both contributed to improve survival from cutaneous malignant melanoma in Italy over the last two decades

Federica Zamagni, Romagna Cancer Registry, Italy

Q&A

14:40-14:55 *Networking Break*

14:55-15:35

Panel Session 6: New Methods in Cancer Registries

Moderators: *Dr. Jaume Galceran, GRELL Steering Committee Spain Representative & Dr. Guy Fagherazzi, Luxembourg Institute of Health (LIH)*

OP_19

Machine learning Model for information extraction from pathology reports written in Spanish in a Population-based Cancer Registry

Nelson Alejandro Portilla Herrera Population-based Cancer Registry of Cali, Colombia

Friday, May 14th

Day 2: Virtual Conference

LEGEND

👆 ◀ *Click article to get more details*

OP_20

Impact of comorbidity-adjusted life tables to correct for net survival: the example of patients with head and neck cancer

Marion Delaurens, Cerpop, Université De Toulouse, Inserm, Ups, Toulouse, France

OP_21

Excess hazard models using multidimensional penalized splines: a novel methodology for the French cancer survival trends study

Emmanuelle Dantony, Hospices Civils De Lyon, France

Q&A

15:35-16:00

e-Poster Session and Networking Break

16:00-16:30

Presentation of the next GRELL meeting 2022 – Pamplona(Spain)

Dr. Eva Ardanaz,GRELL Steering Committee Spain Representative

Young researcher award

(e-Poster and oral presenters) ceremony

Closing remarks of the GRELL 2021

New president of the GRELL & Dr. Claudine Backes, National Cancer Registry of Luxembourg

Abstract book
GRELL 2021

99
abstracts

29
oral presentations

78
e-posters

Oral presentations

Keynote Speaker Sessions 1 & 2: COVID-19 and Cancer

Wednesday, May 12th | 14:15-15:05 and 15:20-16:10

Panel Session: COVID-19 and Cancer

(OP_1, OP_2, OP_3)

Wednesday, May 12th | 16:25-17:05

Keynote Speaker Sessions 1: Childhood Cancer

Wednesday, May 13th | 10:00-10:50

Panel Session 1: Social Inequalities and Cancer

(OP_4, OP_5, OP_6)

Thursday, May 13th | 11:05-11:45

Keynote Speaker Session 2: Cancer in Adolescents and Young Adults

Thursday, May 13th | 14:00-14:50

Panel Session 2: Hemato-Oncology

(OP_7, OP_8, OP_9)

Thursday May 13th | 15:20-16:00

Panel Session 3 & 4: Epidemiological Use of Cancer Registry Data

(OP_10, OP_11, OP_12, OP_13, OP_14, OP_15)

Friday, May 14th | 9:25-10:05 and 10:20-11:00

Panel Session 5: Clinical Use of Cancer Registries Data

(OP_16, OP_17, OP_18)

Friday, May 14th | 14:00-14:40

Panel Session 6: New Methods in Cancer Registries

(OP_19, OP_20, OP_21)

Friday, May 14th | 14:55-15:35

Keynote speaker session 1: COVID-19 and Cancer

COVID-19 and Cancer: Clinical challenges

Prof. Gilbert Massard,

Director of Medical Education, University of Luxembourg,
Esch-sur-Alzette, Grand-Duchy of Luxembourg

Luxembourg-born Professor Gilbert Massard, was appointed as Professor of Cardiothoracic Surgery at Université de Strasbourg, France in 1996, and headed the the Department of Thoracic Surgery and Lung Transplantation at the Hôpitaux Universitaires de Strasbourg (HUS), of which he was also a Board member.

Specialised in thoracic oncology, lung transplantation, and medical education, he is past president of the European Society of Thoracic Surgeons (2018-2019), and the vice-president of the French Society of Thoracic and Cardiovascular Surgery. He is a member of the section for cardiothoracic surgery of the French National Council of Universities and the chairperson of the European Board of Thoracic Surgery and current programme director at the Education Council of the European Respiratory Society. He has authored over 280. articles in scientific journals and has held several positions in national and international societies.

He joined University of Luxembourg in June 2019 as Director of Medical Education, which is a field in steep expansion.

Keynote speaker session 1: COVID-19 and Cancer

The effect of the COVID-19 pandemic on cancer incidence and cancer registration (part 1)

Dr. Otto Visser,
Director of the Netherlands Cancer Registry, ENCR Chairperson,
The Netherlands

Dr. Visser graduated from Medical School in 1984. After some years in basic research, he was employed at the Comprehensive Cancer Centre Amsterdam, where he was head of the Amsterdam Cancer Registry since 1996. From 2011-13, he was a cancer registry expert at the Comprehensive Cancer Centre the Netherlands, the result of a merger of seven regional organizations. In 2014, he became director of registration at the Netherlands Comprehensive Cancer Organization. The Netherlands Cancer Registry is one of the most comprehensive cancer registries in the world. Dr Visser was involved in many cancer registry publications and a large number of (inter)national studies with cancer registry data. He obtained his doctorate with a thesis on a number of studies with cancer registry data in January 2006.

Keynote speaker session 2: COVID-19 and Cancer

The effect of the COVID-19 pandemic on cancer incidence and cancer registration (part 2)

Dr. Liesbet Van Eycken,
Director of the Belgian Cancer registry, Belgium & Representative of IACR at the ENCR Steering Committee

Dr. Liesbet Van Eycken was trained as Radiation Oncologist in the University Hospital of Leuven (1997). She is Director of the Belgian Cancer Registry since 2005.

Her interests are focused on the good practices in a cancer registry (data collection, data quality, and linkage with administrative/clinical data bases). Evaluation of quality of care in a population-based environment with a focus on the impact of tumour stage gets her full attention. She is involved in (inter-) national programs to stimulate and promote the use of the TNM classification as prognostic factor in cancer registries. She is member of the ENCR Steering Committee (IACR representative), the IACR Board of Directors and the UICC TNM Core Committee (since 2010).

Keynote speaker session 2: COVID-19 and Cancer

The Central and South American cancer registries challenges during the COVID-19 pandemic

Prof. Luis Eduardo Bravo,
Department of Pathology, University of Valle, Cali
& Director of the Cali Cancer Registry, Colombia

Professor Emeritus of Pathology and Epidemiology at Universidad del Valle, Colombia for the last 25 years. Director of the Population-based Cancer Registry of Cali since 2001, has dedicated his efforts to researching cancer, especially gastric cancer and its relationship with Helicobacter pylori. Regional Representative of the International Association of Cancer Registries (IACR) for Latin America, 2018-2022.
The Cali Population Cancer Registry (RPCC) has been in continuous operation since 1962 with the objective of producing valid statistics on the incidence of cancer, its patterns, trends and survival rates.

16:25-17:05

Panel session:
COVID-19 and Cancer

OP_1

Impact of COVID-19 on cancer diagnosis and treatments: nationwide data from Luxembourg

Claudine Backes, Valérie Moran, Michel Mittelbronn, Guy Berchem, Nikolai Goncharenko, Stefan Rauh, Carlos Magalhaes, Marc Suhrcke, Laetita Huiart, Sophie Couffignal, Guillaume Vogin, Michel Untereiner, Luxembourg

OP_2

How long people wait to consult for cancer symptoms before and after the coronavirus pandemic: Implications for cancer diagnoses and outcomes

Dafina Petrova, Marina Pollán, Miguel Rodriguez-Barranco, Josep Maria Borrás, Dunia Garrido, Daniel Redondo-Sánchez, Esther Ubago-Guisado, Maria-José Sánchez, Spain

OP_3

Did COVID-19 pandemic changed the pursuit for early diagnosis and delayed the onset of cancer treatment? A statistical study of registered cases at Portuguese Cancer Institute of Lisbon

Alexandra Mayer-da-Silva, Cláudia Brito, Ana Miranda, António Lourenço, Portugal

OP_1 Panel session: COVID-19 and Cancer

Impact of COVID-19 on cancer diagnosis and treatments: nationwide data from Luxembourg

Dr. Claudine Backes[1,2], Dr. Valérie Moran[1,3], Prof Michel Mittelbronn[11,12,13,14,15,16], Prof. Guy Berchem[6,7,8,9], Dr. Nikolai Goncharenko[7], Dr. Stefan Rauh[6,10], Carlos Magalhaes[5], Prof. Marc Suhrcke[3,4], Prof. Laetita Huiart[1], Dr. Sophie Couffignal[1,2], Dr. Guillaume Vogin[5,6], Dr. Michel Untereiner[2,5,6]

[1]Department of Population Health, Luxembourg Institute of Health, Strassen, Luxembourg, [2]National Cancer Registry, Registre National du Cancer (RNC), Strassen, Luxembourg, [3]Luxembourg Institute of Socio-Economic Research (LISER), Esch-sur-Alzette, Luxembourg, [4]Centre for Health Economics, University of York, York, United Kingdom, [5]National Radiotherapy Centre, Centre National de Radiothérapie François Baclesse (CFB), Esch-sur-Alzette, Luxembourg,[6]Luxembourgish Society of Oncology, Société Luxembourgeoise d'Oncologie (SLO), Luxembourg, Luxembourg, [7]National Cancer Institute, Institut National du Cancer (INC), Strassen, Luxembourg, [8]Department of Oncology, Luxembourg Institute of Health (LIH), Strassen, Luxembourg, [9]Hemato-Oncology department, Centre Hospitalier de Luxembourg (CHL), Luxembourg, [10]Department of Oncology, Centre Hopitalier Emile Mayrisch (CHEM), Esch-sur-Alzette, Luxembourg, [11]National Center of Pathology (NCP), Laboratoire National de Santé (LNS), Dudelange, Luxembourg, [12]Luxembourg Centre for Systems Biomedicine (LCSB), University of Luxembourg, Esch-sur-Alzette, [13]Department of Oncology (DONC), Luxembourg Institute of Health (LIH), Luxembourg, [14]Faculty of Science, Technology and Medicine (FSTM), University of Luxembourg, Esch-sur-Alzette, [15]Department of Life Sciences and Medicine (DLSM), University of Luxembourg, Esch-sur-Alzette, [16]Luxembourg Centre of Neuropathology (LCNP), University of Luxembourg, Luxembourg

Biography:

Prof Michel Mittelbronn is the head of the National Pathology Center of Luxembourg and the head of the Luxembourg Center of Neuropathology. Dr. Claudine Backes is the epidemiologist of Luxembourg's National Cancer Registry and is a research in cancer and environmental epidemiology.

Background:

COVID-19 is placing unprecedented pressures on healthcare systems. The current pandemic has required healthcare professionals to reorganise profoundly their everyday practice while trying to maintain standards of non-COVID-19 healthcare. Despite measures taken by governments and healthcare providers, cancer patients may face treatment and screening disruption. This study aims to improve the understanding of the impact of COVID-19 on clinical oncology activity in Luxembourg.

Method:

A newly created online survey, including questions on implemented COVID-19 containment measures, COVID-19 cases in oncology departments, and the routine use of preventive measures in oncology was sent to all oncologists active in Luxembourg to assess their clinical experiences during lockdown. In Luxembourg, the lockdown was introduced simultaneously for the entire country on 16 March 2020 until 4 May 2020. Additionally, nationwide daily numbers of radiotherapy sessions provided in 2020, as well as the number of malignant cancer diagnostics (surgical pathologies) made at the National Center of Pathology were analysed and compared with previous years.

Results:

The survey had a response rate of 45%, with representation of all national hospitals. Results showed that all respondents moved to teleconsultations during the lockdown, with 92% using phone and 23% video consultations. 77 % reported treatment plan changes, with 54% of planned palliative chemotherapy modified and 31% cancelled. Treatment shifts from systemic to oral, lower dose administrations or larger intervals were introduced to reduce hospital visits. Patients received influenza (84%) or pneumococcal (64%) vaccination recommendations, regardless of their cancer treatment.

The lockdown reduced the national number of radiotherapy sessions by almost one third. Even following the lockdown, the number of radiotherapy sessions provided remained lower between July and October 2020 compared to numbers from pre-lockdown and from 2017-2019. Compared to April 2019, the total number of malignant tumours diagnosed reduced by 70% in April 2020. In 2020, the estimated number of new cancer diagnosis made and surgeries done is reduced by 10%.

Conclusion:

This nationwide data of clinical practice in cancer care may support a better understanding of cancer epidemiology in 2020 and beyond, as well as clinical decision-making for future outbreaks.

OP_2 Panel session: COVID-19 and Cancer

How long people wait to consult for cancer symptoms before and after the coronavirus pandemic: Implications for cancer diagnoses and outcomes

Dr. Dafina Petrova[1,2,3], Dr. Marina Pollán[1,4], Dr. Miguel Rodriguez-Barranco[1,2,3], Dr. Josep Maria Borrás[5,6], Dr. Dunia Garrido[7], Mr. Daniel Redondo-Sánchez[1,2,3], Dr. Esther Ubago-Guisado[1,2,3], Dr. Maria-José Sánchez[1,2,3,7]

[1]CIBER of Epidemiology and Public Health (CIBERESP), Madrid, Spain, [2]Escuela Andaluza de Salud Pública (EASP), Granada, Spain, [3]Instituto de Investigación Biosanitaria ibs.GRANADA, Granada, Spain, [4]National Center for Epidemiology, Health Institute Carlos III, Madrid, Spain, [5]IDIBELL, University of Barcelona, Barcelona, Spain, [6]Department of Health, Catalonian Cancer Strategy, Barcelona, Spain, [7]University of Granada, Granada, Spain

Biography:

Dafina Petrova is a postdoctoral researcher in the CIBER of Epidemiology and Public Health and the Cancer Registry of Granada based at the Andalusian School of Public Health in Granada, Spain.

Background:

Recent data from Spain indicated a 21% decrease in new cancer diagnoses during the first SARS-CoV-2 pandemic wave, suggesting important diagnostic delays. Besides the changes in the functioning of the health system, the time patients wait before consulting their physician after noticing cancer symptoms could also have increased during the pandemic, contributing to diagnostic delays. To test this hypothesis, we compared anticipated help-seeking times for cancer symptoms in the Spanish population before and after the pandemic.

Method:

Two waves of the nationally representative Spanish Oncobarometer survey were analyzed: Pre-Coronavirus (N=3269) collected in February 2020 and Post-Coronavirus (N=1500) collected after the first wave in August 2020. Anticipated times to help-seeking (i.e. consulting with one's physician) and perceived barriers were measured with the international ABC questionnaire. Pre-post comparisons were performed for individual symptoms, barriers, and sum scores using multiple logistic and Poisson regressions. Differences by age groups and sex in the pre-post effects were also examined.

Results:

There was a consistent and significant increase in anticipated times to help-seeking from Pre to Post for 12 out of 13 cancer symptoms, with the largest increases for breast changes (OR=1.54, 95% CI 1.22-1-96) and unexplained bleeding (OR=1.50, 95% CI 1.26-1.79). The time to help-seeking for changes in the appearance of a mole increased substantially among women (OR=1.53, 95% CI 1.29-1.81). Respondents were also more likely to report barriers to help-seeking in the Post wave (e.g. worry about wasting the doctor's time). Both, help-seeking times and perceived barriers, increased more strongly among women and older individuals.

Conclusion:

Patients experiencing cancer symptoms may be waiting longer to consult with their physicians during the pandemic, which could contribute to late or missed cancer diagnoses. Cancer registries are in a unique position to lead or collaborate in studies estimating how the pandemic has influenced the different intervals on the cancer treatment pathway. This study shows that, besides the diagnostic and pre-treatment intervals, the patient interval should also be considered to fully understand any pandemic-related changes in cancer diagnoses or outcomes.

Funding:

Spanish Association against Cancer (www.aecc.es). Cancer Epidemiological Surveillance Subprogram (VICA), CIBERESP, Health Institute Carlos III, Spain.

OP_3 Panel session: COVID-19 and Cancer

Did Covid pandemic changed the pursuit for early diagnosis and delayed the onset of cancer treatment? A statistical study of registered cases at Portuguese Cancer Institute of Lisbon

MSc Alexandra Mayer-da-Silva[1], MSc Cláudia Brito[1], MD Ana Miranda[1], MD António Lourenço[1]

[1]National Cancer Registry (RON) – Portuguese Cancer Institute of Lisbon, Lisbon, Portugal

Biography:

Master's Degree in Mathematics and Statistics, statistician at the Portuguese National Cancer Registry (RON), Institute of Oncology, Lisbon. Responsible for RON databases control, data quality monitoring, and management of RON registry platform. Author and co-author of medical and epidemiological articles and publications. Teaching at Universities. Multiple postgraduate and specialization courses.

Background:

Recent data from Spain indicated a 21% decrease in new cancer diagnoses during the first SARS-CoV-2 pandemic wave, suggesting important diagnostic delays. Besides the changes in the functioning of the health system, the time patients wait before consulting their physician after noticing cancer symptoms could also have increased during the pandemic, contributing to diagnostic delays. To test this hypothesis, we compared anticipated help-seeking times for cancer symptoms in the Spanish population before and after the pandemic.

Objectives:

Early diagnosis and treatment are key factors to successful cancer control. This study was planned to evaluate possible changes of these two factors during the year 2020, a period of Covid pandemic restrictions and lockdown, using cancer cases registered at Portuguese Cancer Institute of Lisbon, a Covid free hospital.

Methods:

We compared invasive incident cases, registered in 2019, with those of 2020, considering the following variables: number of cases (total; per gender; per type of cancer), age and stage at diagnosis, time between first consultation and the start of therapy.

Results:

7185 cases were diagnosed in 2019 and 4425 in 2020, a decrease of 38%. The highest reduction occurred in the 2nd semester (less 1453 cases in the 2nd semester whereas 1307 in the 1st). The mean age at diagnosis (62 y-old) and gender distribution (1.2 and 1.1 ratio women/men) were similar in both years. To avoid a possible lack of elements due to delayed registry incorporation, only first semester cases were considered for complete analysis. Consequently, 3677 cases remained in 2019 and 2370 in 2020. Evaluating the incident cases by topography, we found a decrease on screening tumours - breast, colon rectal and cervix - 45%, 41%, 11%, respectively. This pattern was also present in head and neck (25%), stomach (49%), prostate (63%), lung (32%) and hemato-oncological cancers (22%).

In 2020, there was a significantly higher proportion of cases with metastatic disease, namely for lung (47% vs 62%) and pancreatic cancers (54% vs 75%).

The proportion of treated cases was significantly higher in 2019 (75% vs 71%), whereas the proportion of waiting for treatment was significantly higher in 2020 (8% vs 21%). Time to first treatment in hospital was lower in 2020 (mean 56 days vs 74 in 2019).

Conclusion:

There was a significant decrease of cancer cases diagnosed in 2020. The lower number of cases most probably contributed to the reduction of time to treatment. Increased cases of metastatic disease may be correlated with the awareness of need to treatment in aggressive disease. Serious impact on survival and excess mortality can be expected in the coming years.

Keynote speaker session 1: Childhood Cancer

Cancer registration: a cornerstone of the WHO Global Initiative for Childhood Cancer

Dr. Eva Steliarova-Foucher,

Childhood Cancer Leader, Cancer Surveillance Branch, International Agency for Research on Cancer (IARC), Lyon, France

Dr. Eva Steliarova-Foucher is a senior scientist at the International Agency for Research on Cancer (IARC) of the World Health Organisation (WHO). She graduated at the Comenius University in Bratislava, obtained the MSc degree in London School of Hygiene and Tropical Medicine and defended her PhD thesis at the National Cancer Institute of the Slovak Academy of Sciences. She gained experience in cancer registration at the National Cancer Registry of Slovakia. Since 1994 she conducts epidemiology research at the IARC, mainly focused on childhood cancer. She led the development of three editions of the International Classification of Childhood Cancer, coordinated international consortia of cancer registries, and several international studies.

Keynote speaker session 1: Childhood Cancer

Understanding international variation in childhood cancer survival rates: the BENCHISTA project

Prof. Kathy Pritchard-Jones,

President of the International Society of Paediatric Oncology (SIOP) and Professor of Paediatric Oncology, University College London (UCL), Great Ormond Street Institute of Child Health, London, UK

Prof. Kathy Pritchard-Jones is Professor of Paediatric Oncology, University College London Great Ormond Street Institute of Child Health. Her major clinical and research interests are in childhood kidney cancer and international collaborations to define best practice and benchmark childhood cancer outcomes. She graduated in medicine in 1983 (Oxford University) and completed her PhD on Wilms tumour genes in 1992 in Edinburgh. She has worked as a consultant paediatric oncologist at the Royal Mardsen Hospital and Great Ormond Street Hospital, London, UK and been chief medical officer for an integrated cancer system of health care providers serving a population of 3.5 million in North London. She has held several leadership roles in the International Society of Paediatric Oncology (SIOP) at a European and global level and is currently President of SIOP (2019-2022) at a critical time to support the global implementation of the WHO’s challenge to double childhood cancer survival rates in Low and Middle Income Countries to 60% by 2030.

11:05-11:45

Panel session 1:
Social Inequalities and Cancer

OP_4

Evolution of socioeconomic inequalities in cancer incidence in France: a longitudinal study

Krystaelle Derette, Joséphine Bryere-Théault, Guy Launoy, France

OP_5

What implications can be expected from lack of deprivation-specific life tables in France on the results of studies investigating the social gradient in cancer net survival?

Laure Tron, Laurent Remontet, Mathieu Fauvernier, Bernard Rachet, Aurélien Belot, Ludivine Launay, Ophélie Merville, Florence Molinié, Olivier Dejardin, Guy Launoy, Francim-group, France

OP_6

Sex-specific trends in lung cancer incidence and survival over 1990-2018

Patricia Delafosse, Emmanuelle Dantoni, Florence Molinié, Laurent Remontet, Camille De Brauer, Florence De Maria, Tania D’Almeida, Gautier Défossez, FRANCIM French Network of Cancer Registries, France

OP_4

Panel session 1:
Social Inequalities and Cancer

Evolution of socioeconomic inequalities in cancer incidence in France: a longitudinal study

Krystaelle Derette[1], Joséphine Bryere-Théault[1], Guy Launoy[1,2]

[1]Inserm U1086 Anticipe, Caen, France, [2]French Network of Cancer Registries, Toulouse, France

Biography:

Currently a study engineer, my main objective is to measure the influence of socioeconomic environment on cancer incidence and to asses the trend in socieconomic inequalities.

Abstract:

In the field of health, and particularly in cancerology, the reduction of social inequalities is a priority of European public policies. The objective of our study was to assess the trends of socioeconomic inequalities in cancer incidence in Metropolitan France between the years 2006 and 2016.

We focused our study on the most incident solid tumors (16) and hemopaties (3) for both men and women. Data were all the cases of cancer collected by the French network of cancer registries (FRANCIM) between 2006 and 2016, representing 604,205 cases. For all diagnosed cancers, patient addresses were geolocalized and assigned to an IRIS, the smallest geographic unit in France. Each IRIS was a statistical unit. To appreciate the deprivation level of each IRIS, the French version of European Deprivation Index (EDI) was used. A Generalized Linear Mixed Model (GLMM) was used with longitudinal data to measure the association between deprivation and incidence and the evolution of socioeconomic inequalities over time.

We found a significant reduction of socioeconomic inequalities over time for lung cancer in both men and women. For breast cancer in women and lymphocytic leukaemia in men, where the incidence is negatively associated with deprivation, differences increased with time. For the bladder cancer for men, the standardized incidence ratio (SIR) was initially higher for deprived areas then the trend was reversed with a higher incidence for the individuals living in affluent areas at the end of the period of study.

Contrary to what was expected, there was no increase in socioeconomic inequalities of incidence. On the contrary, the increase in cancer incidence is larger for individuals living in affluent areas than those living in the most deprived areas.

OP_5 Panel session 1: Social Inequalities and Cancer

What implications can be expected from lack of deprivation-specific life tables in France on the results of studies investigating the social gradient in cancer net survival?

Dr. Laure Tron[1], Laurent Remontet[2,3,4,5], Mathieu Fauvernier[2,3,4,5], Bernard Rachet[6], Aurélien Belot[6], Ludivine Launay[1], Ophélie Merville[1], Florence Molinié[7,8,9], Olivier Dejardin[1,10], Guy Launoy[1,7,10], Francim-group

[1]'Anticipe' U1086 Inserm-UCN, Normandie Université Unicaen, Centre François Baclesse, Caen, France, [2]Hospices Civils de Lyon, Pôle Santé Publique, Service de Biostatistique – Bioinformatique, Lyon, France, [3]University of Lyon, Lyon, France, [4]University of Lyon 1, Villeurbanne, France, [5]CNRS, UMR 5558, Laboratoire de Biométrie et Biologie Évolutive, Équipe Biostatistique-Santé, Villeurbanne, France, [6]Inequalities in Cancer Outcomes Network, Department of Non-Communicable Disease Epidemiology, Faculty of Epidemiology and Population Health, London School of Hygiene and Tropical Medicine, London, United Kingdom, [7]French Network of Cancer Registries (FRANCIM), Toulouse, France, [8]Loire-Atlantique/Vendée cancer registry, Nantes, France, [9]SIRIC-ILIAD, INCA-DGOS-Inserm_12558, CHU Nantes, Nantes, France, [10]Research department, Caen University hospital centre, Caen, France

Biography:

PhD in epidemiology/public health (UPMC, Sorbonne University, Paris VI), Post-doctorate at Inserm 1086 Anticipe: research on social inequalities in cancer survival

Background:

Life tables (LTs) are a key element in cancer net survival analyses (when cause of death is missing) since they provide general population mortality rates according to demographic characteristics. French LTs are stratified by year, sex, age and department (administrative unit). In studies investigating social inequalities in cancer net survival, the available French LTs ignore the social gradient in background mortality observed in the general population. Consequently, the social gradient in cancer-related excess mortality might be over-estimated. Our aim was to simulate deprivation-specific French LTs and compare results of analyses of cancer net survival by deprivation, using original LTs versus simulated LTs.

Methods:

Firstly, two sets of simulated deprivation-specific French LTs were created: one based on existing deprivation-specific English LTs and another one based on mortality rate ratios stratified by income, derived from a French socio-demographic panel. In both cases, the social gradient in mortality in general population observed in these external sources was applied to the original French LTs. Secondly, data from Tron et al., 2019 Int J Cancer (i.e. 210,000 cancer cases diagnosed between 2006 and 2009, recorded by the French network of cancer registries (Francim), followed up until 6/30/2013) were re-analyzed using the simulated LTs. Social environment was assessed by the European Deprivation index (EDI). Net survival was estimated by Pohar-Perme (non-parametric) method and flexible excess mortality hazard models using multidimensional penalized splines.

Results:

Thirty-two cancer sites were studied, including solid tumors and malignant blood disorders. According to non-parametric analyses, results were consistent for 22 cancer sites (e.g. head and neck or pelvic gynecological cancers), alleviated (i.e. association between deprivation and survival became non-significant but similar trends remained) for 9 cancer sites (e.g. colon-rectum), and inconsistent only for prostate cancer. Flexible models confirmed these observations, additionally showing alleviated results for 4 cancer sites and mixed results for 2 types of non-Hodgkin lymphomas.

Discussion:

For most cancers, the social gradient of survival remained or was slightly alleviated using deprivation-specific LTs. However, results for prostate cancer indicate how creating true deprivation-specific LTs in France is crucial to accurately assess cancer net survival.

OP_6 Panel session 1: Social Inequalities and Cancer

Sex-specific trends in lung cancer incidence and survival over 1990-2018

Docteur En Médecine Patricia Delafosse[1,9], Emmanuelle Dantoni[2,3], Florence Molinié[4,9], Laurent Remontet[2,3], Camille De Brauer[5], Florence De Maria[6], Tania D'Almeida[7,9], Gautier Défossez[8,9], FRANCIM French Network of Cancer Registries[9]

[1]Registre Du Cancer De L'isère, La Tronche, France, [2]Hospices Civils de Lyon, Pôle Santé Publique, Service de Biostatistique - Bioinformatique, Lyon, France, [3]Université de Lyon; Université Lyon 1; CNRS; UMR 5558, Laboratoire de Biométrie et Biologie Évolutive, Équipe Biostatistique-Santé, Villeurbanne, France, [4]Loire-Atlantique/Vendée Cancer Registry, INCA-DGOS-Inserm_ _12558, CHU Nantes, Nantes, France ,[5]Institut National du Cancer, Boulogne-Billancourt, France,[6]Département des Maladies Non-Transmissibles et des Traumatismes, Santé Publique France, Saint-Maurice, France, [7]Haute-Vienne Cancer Registry, [8]Poitou-Charentes Cancer Registry, [9]French Network of Cancer Registries (Francim), Toulouse 31000, France

Biography:

Médecin au Registre du Cancer de l'Isère responsable du pôle enregistrement, suivi, mise en place d'études collaboration à la rédaction d'articles, coordination et participation à des groupes de travail du réseau (formation pour les techniciens d'enregistrement, démarche qualité, RGPD), travaux sur des localisations particulières (poumon, SNC, sarcomes), évaluation du dépistage.

Background:

Lung cancer is increasingly affecting women. The aim of this study was to identify sex-specific trends in lung cancer incidence and survival.

Methods:

Data were obtained from the French population-based cancer registries covering 22% of the population (14 million people). National incidence and survival trends were derived from multi-dimensional penalized splines using local registries data (without correction with mortality as in older French studies). Trends over 1990-2018 were summarized by average annual percent changes (AAPCs) from age-standardized incidence rates for incidence, and by points of variations from 5-year standardized net survival (SNS) rates for survival.

Results:

For lung cancer, incidence increased dramatically in women (AAPC=+5.3%), while it remained stable in men (AAPC=-0.1%), leading to a narrowing sex gap (male-to-female rate ratios decrease from 9.5 to 2.2). In men, the apparent overall stability of lung cancer incidence resulted from diverging trends of histological subtypes: increasing incidence of adenocarcinoma (+3.9%) while decreasing incidence of squamous cell carcinoma (-2.9%) and small cell cancer (-0.9%). In women, the incidence rates increased steadily for both three histological subtypes (+7.7%, +4.7% and +2%, respectively). Trends of overall lung cancer SNS over year of diagnosis show a globally improvement between 1990 and 2015 (+11 points, from 11% to 22%). Adenocarcinoma is now the most frequent histological group in men and women. The risk of dying is higher in men for adenocarcinoma and small cell lung carcinoma. On the other hand, for squamous cell carcinomas there is no significant difference in survival at 1 and 5 years between women and men.

Conclusion:

Female are closing the sex incidence gap in lung cancer in line with past exposures and changes of smoking habits. While a decrease in incidence may be expected over the coming years in men, the incidence of adenocarcinomas increase steadily in both sexes with higher risk of dying in men. Despite an improvment, survival rates remained very low after lung cancer. Emerging evidence of such differences emphasizes the importance of continuous research."

Keynote Speaker Session 2:
Cancer in Adolescents and Young Adults

Putting Adolescents and Young Adults (AYA) under spotlight

Dr. Andrea Ferrari,

Pediatric Oncology Unit, National Cancer Institute (INT), Milan, Italy

Dr. Andrea Ferrari works at the Pediatric Oncology Unit of the Istituto Nazionale Tumori, Milan, where he is responsible of the Outpatient Service. His researches focused on soft tissue sarcomas, pediatric rare tumors and adolescents and young adults (AYA).
In the last years, he devoted himself to the special needs of AYA. He developed the "Youth Project" in his center. He currently chairs the Italian AIEOP Working Group on Adolescents and the SIOPE AYA Committee, and co-chairs the ESMO-SIOPE AYA Working Group. He is author or co-author of more than 400 papers published on international scientific journals.

Keynote Speaker Session 2:
Cancer in Adolescents and Young Adults

Classifications of cancers in adolescents and young adults and their implications

Prof. Ronald Barr,
McMaster University, Hamilton, Ontario, Canada

Prof Ronald Barr is Professor Emeritus in the Departments of Pediatrics and Medicine at McMaster University. Previously he held Faculty appointments at the University of Nairobi and the University of Aberdeen, and he had been a Visiting Scientist at the US National Cancer Institute. His interest in cancer among adolescents and young adults stems from an appreciation that those in this age group fall into the gap between paediatric and adult oncology in the industrialised world and their virtual invisibility in national cancer programme in low- and middle-income countries. Dr. Barr was appointed to the Order of Canada in November, 2020.

Keynote Speaker Session 2:
Cancer in Adolescents and Young Adults

Classifications of cancers in adolescents and young adults and their implications

Prof. Archie Bleyer,
Knight Cancer Institute of the Oregon Health & Science University, Portland, Oregon, USA

Prof. Archie Bleyer is Clinical Research Professor in Radiation Medicine and The Knight Cancer Institute at the Oregon Health and Science University, Professor of Pediatrics at the McGovern Medical School, University of Texas. He has been Chair of the Children's Cancer Group, Professor of Pediatrics, Medicine and Radiation Oncology at the University of Washington, and Clinical Associate at the Pediatric and Medicine Branches of the National Cancer Institute. His interest in adolescent and young adult oncology began in 1995 when he discovered that patients in the age group were not receiving the research attention that was benefiting younger and older patients.

15:20-16:00

Panel session 2: Hemato-Oncology

OP_7

Real world population-based study of treatment-modalities of Diffuse Large B-Cell Lymphoma in Belgium: focus on the older population

Willem Daneels, Michael Rosskamp, Gilles Macq, Estabraq Saadon, Anke De Geyndt, Fritz Offner, Hélène Antoine-Poirel, Belgium

OP_8

Incidence of myeloid neoplasms in Spain (2002-2013): a population-based study of the Spanish Network of Cancer Registries (REDECAN)

Marta Solans, Ruben Sabido, Alberto Ameijide, Visitación de Castro, Maria Dolores Chirlaque, José Ramón Quirós-García, Carmen San Sebastian, Dolores Rojas-Martín, Daysi Yoe-Ling Chang, Araceli Alemán, Carmen Sánchez-Contador, Marcela Guevara, Consol Sabater, Arantza López de Munain, Josefina Perucha, Matilde Chico, Ana Isabel Marcos, Jaume Galceran, Rafael Marcos-Gragera, group and REDECAN, Spain

OP_9

Population-based incidence of lymphoid neoplasms in Tarragona, Catalonia, Spain (2006-2015)

Clàudia Pla, Marià Carulla Aresté, Xavier Cardó, Laia Llauradó, Araceli Jiménez, Sandra Mateu, Marià Carulla, Lydia Díaz, Cristina Miracle, Jaume Galceran, Spain

OP_7 Panel Session 2: Hemato-Oncology

Real world population-based study of treatment-modalities of Diffuse Large B-Cell Lymphoma in Belgium: focus on the older population

MD Willem Daneels[2], Michael Rosskamp[1], Gilles Macq[1], Estabraq Saadon[3], Anke De Geyndt[1], MD PhD Fritz Offner[2], Md Phd Hélène Antoine-poirel[1]

[1]Belgian Cancer Registy, Brussels, Belgium, [2]Department of Hematology, Ghent University Hospital, Ghent, Belgium, [3]Ghent University, Ghent, Belgium

Biography:

Education in France :
- MD specialties Hematology and Genetics
- Master Epidemiology
- PhD Oncogenesis

2004-2016: Human Genetic Centre - UCL (Belgium)
- Clinical Professor - Head of the genetic laboratory for somatic/germline hematological malignancies and rare tumors

2017-…: Belgian Cancer Registry
- Medical Manager - Hematology and Genetics

Introduction:

There is a growing interest for real-world population studies to assess the results of randomized clinical trials in an unselected population, including older patients and those with comorbidities or other malignancies.

We aimed to determine the patterns of care for Diffuse Large B-Cell Lymphoma (DLBCL) among adult (≥ 20 yr) patients diagnosed in Belgium 2013-2015 (N=1888) with a specific focus on older patients.

Methods:

Health insurance data were used to infer DLBCL treatment modalities (chemotherapy schemes, autologous stem cell transplantation (ASCT) and radiotherapy) as well as comorbidities. An in-house algorithm was set up to define chemotherapy regimens (e.g. R-CHOP), the number of cycles and intervals, switches between regimens and refractoriness.

Results:

The 2-year overall survival (OS) was 63% with a clear influence of age (from 84% [20-59yr] to 31% [85+]). In contrast to the prognostic Index (IPI), which uses a cutoff at 60 yr of age for DLBCL, survival changed more markedly at 70.

Treatments varied by age group. Systemic treatment was started in 85% and decreased with age to only 46% in 85+. Anthracycline-based regimens (considered as curative intent) were most frequently used, even in older patients (63% in 70-84yr).

Gold-standard R-(mini)CHOP was associated with the best 4yr-OS (76%). Primary radiotherapy alone was frequently used in older patients with limited stage disease, and although associated with a poor survival, it could be curative for selected patients.

Second-line therapy was initiated in 16% of patients (from 20 to 4% and decreasing with age) and was mostly platinum-based, with a poor prognosis without ASCT consolidation.

ASCT was frequently performed in first-line (n=34/80) and 5yr-OS from start of ASCT was similar in first and second line. In the multivariable analyses, age seemed to be the most discriminating factor related to survival (hazard ratios (ref: 20-59yr): 1.9 in 60-69yr, 2.5 in 70-79yr, 3.8 in 80-84yr, 5.3 in 85+yr).

Conclusion:

This real-world population-based study allows to assess Belgian DLBCL patients usually excluded from clinical trials. The majority of older patients are still started on first-line treatments with curative intent and a substantial fraction benefits from it.

OP_8 Panel Session 2: Hemato-Oncology

Incidence of myeloid neoplasms in Spain (2002-2013): a population-based study of the Spanish Network of Cancer Registries (REDECAN)

Marta Solans[1], Ruben Sabido[2], Alberto Ameijide[3], Visitación de Castro[4], Maria Dolores Chirlaque[5], José Ramón Quirós-García[6], Mª Carmen San Sebastian[4], Dolores Rojas-Martín[7], Daysi Yoe-Ling Chang[8], Araceli Alemán[7], Carmen Sánchez-Contador[9], Marcela Guevara[10], Consol Sabater[11], Arantza López de Munain[4], Josefina Perucha[12], Matilde Chico[13], Ana Isabel Marcos[14], Jaume Galceran[3], Dr. Rafael Marcos-Gragera[2], group and REDECAN[2]

[1]Research Group on Statistics, Econometrics and Health, University of Girona; CIBERESP, Girona, Spain, [2]Epidemiology Unit and Girona Cancer Registry, Oncology Coordination Plan, Catalan Institute of Oncology - Josep Carreras Leukaemia Research Institute, Girona, Spain, [3]Tarragona Cancer Registry, Cancer Prevention and Epidemiology Service, Sant Joan de Reus University Hospital, Tarragona, Spain, [4]Basque Country Cancer Registry, Basque Government, , Spain, [5]Department of Epidemiology, Regional Health Authority, IMIB-Arrixaca, Murcia University, Murcia, Spain, [6]Asturias Cancer Registry, Public Health Directorate, Department of Health, Asturias, Spain, [7]Canary Islands Cancer Registry, Public Health Directorate, Canary Islands Government, , Spain, [8]Granada Cancer Registry, Andalusian School of Public Health, Granada, Spain, [9]Mallorca Cancer Registry, Public Health and Participation Department, Palma de Mallorca, Spain, [10]Navarre Cancer Registry, Navarre Public Health Institute, Pamplona, Spain, [11]Castellón Cancer Registry, Public Health Directorate, Valencian Government, Castellón, Spain, [12]La Rioja Cancer Registry, Epidemiology and Health Prevention Service, La Rioja, Spain, [13]Ciudad Real Cancer Registry, Health and Social Welfare Authority, Castile-La Mancha, Ciudad Real, Spain, [14]Cuenca Cancer Registry, Health and Social Welfare Authority, Castile-La Mancha, Cuenca, Spain

Biography:

Specialist in Preventive Medicine and Public Health, Master's in methodology in health sciences and PhD in Public Health from the Autonomous University of Barcelona. Epidemiologist at the Epidemiology and Cancer Registry Unit of Girona of the Catalan Institute of Oncology and associate professor og University of Girona.

Objective:

The aim of this study was to assess the incidence of myeloid neoplasms (MNs) and their subtypes in Spain over the period 2002-2013, and to estimate the number of MNs expected in Spain during 2021, using harmonized data from the Spanish Network of Cancer Registries (REDECAN).

Methods:

The study included all incident MNs registered by 16 Spanish population-based cancer registries during 2002-2013 (or the available period), covering a ~26% of the total Spanish population. Cases were classified following the WHO 2008 classification and grouped according to the HAEMACARE scheme. Crude (CR) and age-standardized incidence rates using the 2013 European standard population (ASRE), incidence trends, and estimates for 2021 were calculated.

Results:

MNs accounted for 30.86% (n=17,522) of all haematological malignancies (n=56,777) diagnosed during the period of study. Median age at diagnosis was 73 years (IQR 60-81). The overall ASRE was 15.52 (95% CI: 15.29; 15.75) and showed a marked male predominance in almost all subtypes (sex ratio=1.61). ASRE differed significantly across cancer registries, with the highest and lowest rates observed in Girona (21.14, 95% CI: 20.09; 22.19) and Asturias (11.61, 95% CI: 10.95; 12.26), respectively. The ASRE was 5.14 (95% CI: 5.00; 5.27) for myeloproliferative neoplasms (MPN), 4.71 (95% CI: 4.59; 4.84) for myelodysplastic syndromes (MDS), 3.91 (95% CI: 3.79; 4.02) for acute myeloid leukaemia (AML), 0.83 (95% CI: 0.78; 0.88) for MDS/MPN, 0.35 (95% CI: 0.32; 0.39) for acute leukaemia of ambiguous lineage, and 0.58 (95% CI 0.53; 0.62) for not-otherwise specified (NOS) cases. Incidence of MPN, MDS/MPN, and MDS increased during the period of study, with an annual percent change (APC) of 1.6 (95% CI: 0.8; 2.4), 6.9 (95% CI: 4.8; 9.1), and 1.3 (95% CI: 0.4; 2.1), respectively. AML incidence remained stable, while cases of ambiguous lineage and NOS cases decreased markedly. Projections for 2021 incidence will be presented.

Conclusion:

These population-based data on the whole spectrum of MNs provide useful information to better inform etiological hypotheses and plan future health-care services. Further surveillance studies reflecting the 2016 WHO classification of haematological neoplasms updates are warranted.

OP_9 Panel Session 2: Hemato-Oncology

Population-based incidence of lymphoid neoplasms in Tarragona, Catalonia, Spain (2006-2015)

Clàudia Pla[1], Xavier Cardó[1,2], Laia Llauradó[1,2], Araceli Jiménez[1,2], Sandra Mateu[1], Marià Carulla[1,2], Lydia Díaz[1], Cristina Miracle[1], Jaume Galceran[1,2]

[1] Tarragona Cancer Registry, Cancer Epidemiology and Prevention Service, Hospital Universitari Sant Joan de Reus, Reus, Catalonia, Spain, [2] Pere Virgili Health Research Institute, Reus, Catalonia, Spain

Biography:

Clàudia Pla is a biomedical scientist trained at the University of Barcelona and she has experience in molecular biology and genetics of cancer. Since 2020, she is part of the team of the Tarragona Cancer Registry participating in cancer registration and in cancer epidemiology research.

Objective:

Lymphoid neoplasms are a group of diverse entities with different incidence on the population, with a predominance, in most developed countries, of non-Hodgkin lymphoma. The aim of the study was to describe incidence patterns of lymphoid neoplasms in the Tarragona province in the period 2006-2015.

Methods:

Data were extracted from the Tarragona Cancer Registry. Incident cases were classified using the ICD-O-3 and grouped according to the WHO 2008 classification. Annual number of cases per year, relative frequency, and crude (CR) and age-standardized incidence rates to the European standard 2013 population (ASRE) were obtained.

Results:

In the Tarragona province and during the period 2006-2015, 2296 incident cases of lymphoid neoplasms (ASRE=32.01) were diagnosed (mean age at diagnosis 63.3±19.3, ratio men/women 1.28) of which 2086 were non-Hodgkin lymphoma (ASRE=29.37) and 210 were Hodgkin lymphoma (ASRE=2.64). Among non-Hodgkin lymphoma cases, 81 were precursor lymphoid neoplasms (ASRE=1.04), 1716 mature B-cell neoplasms (ASRE=24.37), 150 mature T-cell and NK-cell neoplasms (ASRE =2.04), and 139 lymphoid neoplasms not otherwise specified (NOS) (ASRE=1.92).

Nodular sclerosis classical Hodgkin lymphoma was the most frequent subtype of Hodgkin lymphoma with an ASRE of 1.22 and the most common subtypes of non-Hodgkin lymphomas were diffuse large B-cell lymphoma (ASRE=6.47), plasma cell neoplasms (ASRE=5.99), chronic lymphocytic leukaemia/small B-cell lymphocytic lymphoma (ASRE=5.04), follicular lymphoma (ASRE=2.58) and marginal lymphoma (ASRE=2.05). Among the mature T-cell and NK-cell neoplasms, mycosis fungoides/Sézary syndrome (ASRE=0.94) was the commonest.

Conclusions:

The characteristics of the incidence of lymphoid neoplasms in Tarragona province (rates and distribution according to subtypes) coincide with those reported in other cancer registries in Europe and Catalonia in particular (Solans, 2019). However, we have observed higher rates of mature B-cell neoplasms, highlighting diffuse large B-cell lymphoma, marginal zone lymphoma and mature T-cell and NK-cell neoplasms comparing with HAEMACARE pooled estimation of European cancer registries for 2000-2002 (Sant, 2010). This population-based data will provide relevant information to better understand the etiologic hypotheses and plan future health-care services for lymphoid neoplasms.

9:25-10:05

Panel session 3: Epidemiological Use of Cancer Registry Data

OP_10

Long-term estimates of cancer incidence and mortality in EU by different demographic scenarios: a comparison between GRELL and other EU countries

Giorgia Randi, Tadeusz Dyba, Carmen Martos, Francesco Giusti, Raquel Calvalho, Luciana Neamtiu, Nicholas Nicholson, Manuela Flego, Nadya Dimitrova, Manola Bettio, Italy

OP_11

Estimation of the prevalence of cancer in Spain, 2020

Marià Carulla Aresté, Visitación De Castro, Marta De La Cruz, Rafael Marcos-Gragera, Jaume Galceran, Miguel Rodríguez-Barranco, Josefina Perucha, Patricia Ruiz, María Dolores Chirlaque, Eva Ardanaz, Marià Carulla, Katia Del Pozo, José Ramón Quirós, Araceli Alemán, Dolores Rojas, Ana Vizcaino, Matilde Chico, Ana Isabel Marcos, Arantza López de Munain, Spain

OP_12

Risk of thyroid as a first or second primary cancer. A population-based study in Italy, 1998-2012

Veronica Mattioli, Emanuele Crocetti, Luigino Dal Maso, AIRTUM working group, Italy

OP_10 Panel session 3: Epidemiological Use of Cancer Registry Data

Long-term estimates of cancer incidence and mortality in EU by different demographic scenarios: a comparison between GRELL and other EU countries

Dr. Giorgia Randi[1], Dr. Tadeusz Dyba[1], Dr. Carmen Martos[1], Dr. Francesco Giusti[1], Raquel Calvalho[1], Luciana Neamtiu[1], Nicholas Nicholson[1], Manuela Flego[1], Nadya Dimitrova[1], Manola Bettio[1]

[1]European Commission - Joint Research Centre, Ispra (VA), Italy

Biography:

Giorgia Randi obtained her Biostatistics PhD at University of Milano (2009). Before joining the JRC (2013), she worked at the "Mario Negri" Institute (Italy), at IARC (France), and at the population-based cancer registry of Milano (Italy). Current research interests include cancer projections, cancer data visualisation, and environmental cancer risk.

Introduction:

Foresight figures of cancer burden are important for long-term health policies. Major risk factors for cancer include ageing, genetics, lifestyle, natural exposures, and pollution. The latest estimates on the cancer burden predicted 2.7 million new cancer cases and 1.3 million cancer deaths in EU-27 countries for 2020. Assuming the same cancer rates estimated for 2020, longer-term estimates of cancer burden were obtained, providing a rough assessment of population ageing under different demographic scenarios.

Methods:

Projections (baseline scenario) of European Union (EU-27) populations were taken from EUROSTAT for the years 2025, 2030, 2035, and 2040. In addition, EUROSTAT releases also other projected-population scenarios for the same years according to the following demographic assumptions: lower fertility rate, lower mortality rate, lower, higher or no migration. Applying the 2020 incidence and mortality crude rates previously estimated by age, sex, country, and cancer entity, we calculated numbers of incident cases and cancer deaths for EUROSTAT projected years both for GRELL countries (Belgium, France, Italy, Portugal, Romania, Spain, and Switzerland) and for the rest of the EU.

Results:

The number of new cancer cases in GRELL countries is estimated to increase from 1.3 million in 2020 to 1.7 million by 2040, with an increment of 23.7% and of 19.2% in non-GRELL countries. The increment is estimated to be higher in the scenario of lower mortality (25.6% in GRELL and 21.2% in non-GRELL countries), while it is lower for the no migration scenario (21.3% and 18.1%). Large variability is observed among cancer entities. For instance, incident cases of testis cancer - occurring at younger ages - is expected to decrease by 2040 (-6.2% in GRELL and -4.5% in non-GRELL countries), and even more so in the assumption of lower fertility or lower/no migration.
The number of cancer deaths in GRELL countries is estimated to grow to 0.8 million by 2040 from 0.6 million in 2020 (an increase of 35.4%, compared to 29.4% in non-GRELL EU countries). Higher increments are estimated for the higher mortality scenario (38% and 32.6%).

Conclusions:

The results obtained are of value especially for planning health policies for cancer in the EU.

OP_11

Panel session 3: Epidemiological Use of Cancer Registry Data

Estimation of the prevalence of cancer in Spain, 2020

Jaume Galceran[1],Alberto Ameijide[1], Visitación de Castro[2], Marta de la Cruz[2], Rafael Marcos-Gragera[3], Miguel Rodríguez-Barranco[4], Josefina Perucha[5], Patricia Ruiz[6], María Dolores Chirlaque[7], Eva Ardanaz[8], Marià Carulla[1], Katia del Pozo[9], José Ramón Quirós[10], Araceli Alemán[10], Dolores Rojas[10], Ana Vizcaino[11], Matilde Chico[12], Ana Isabel Marcos[13], Arantza López de Munain[2] . Spanish Network of Cancer Registries (REDECAN) (Cancer registries of: Tarragona[1], Euskadi[2], Girona[3], Granada[4], La Rioja[5], Mallorca[6], Murcia[7], Navarra[8], Albacete[9], Asturias[10], Canarias[11], Castellón[12], Ciudad Real[13], Cuenca[15])

[1]Registre de Càncer de Tarragona. Servei D'epidemiologia I Prevenció Del Càncer. Hospital Universitari Sant Joan De Reus, Reus, Spain, [2]Registro de Cáncer de Euskadi, Vitoria, Spain, [3]Registre de Cáncer de Girona, Girona, Spain, [4]Registro de Cáncer de Granada, Granada, Spain, [5]Registro de Cáncer de La Rioja, Logroño, Spain, [6]Registre de Càncer de Mallorca, Palma de Mallorca, Spain, [7]Registro de Cáncer de Murcia, Murcia, Spain, [8]Registro de Cáncer de Navarra, Pamploma, Spain, [9]Registro de Cáncer de Albacete, Albacete, Spain, [10]Registro de Tumores del Principado de Asturias, Oviedo, Spain, [11]Registro Poblacional de Cáncer de la Comunidad Autónoma de Canarias, Las Palmas de Gran Canaria/Tenerife, Spain, [12]Registro de Tumores de Castellón, Valencia, Spain, [13]Registro de Cáncer de Ciudad Real, Ciudad Real, Spain, [14]Registro de Cáncer de Cuenca, Cuenca, Spain

Biography:

Specialist in Preventive Medicine and Public Health and Doctor in Medicine. Director of the Cancer Epidemiology and Prevention Service of the Hospital Sant Joan de Reus (Tarragona) and of the Tarragona Cancer Registry. President of the Spanish Network of Cancer Registries. Member of the Cancer Screening Advisory Commission of Catalonia.

Objective:

The total and 5-year prevalence of cancer is the proportion of people in a population who have been diagnosed with cancer at some point in their life or a few years ago, respectively. Objective: to calculate the estimates of the total and 5-year prevalence of cancer in Spain by tumour type and sex at December 31, 2020.

Methods:

This project is based on previous data from the REDECAN projects on cancer incidence and survival in Spain. Using generalized linear mixed Bayesian models, the number of incident cases for each sex, age group and year between 2001 and 2020 were estimated. For each estimated case, 100 cases were simulated with their respective lifetimes and vital status as of 12/31/2020. The lifetime simulation was performed using a Weibull model based on the year of diagnosis and the age group, the parameters of which were previously calculated with the data from the estimation of cancer survival in Spain. From the database of simulated cases, total and 5-year after diagnosis cases and prevalence rates were estimated for each tumour type and sex.

Results:

The estimated number of total prevalent cases at December 31, 2020 is 2,265,152 (men: 1,066,959; women: 1,198,193). This represents a total of 4,611 per 105 men and 4,961 per 105 women. Among men, 42.8% of cases (456,366) are prevalent less than 5 years after diagnosis and among women, this percentage is 32.1% (384,080 cases). The most prevalent cancers in men are prostate (259,788), colon-rectum (191,884) and urinary bladder (149,795) and in women breast (516,827), colon-rectum (148,205) and corpus uteri (83,099).

Conclusions:

On December 31, 2020, almost 5% of the Spanish population who were alive had been diagnosed with cancer at some point in their life. The prevalent cancer cases are a very heterogeneous group in terms of health status, since they include patients in clinical treatment and those diagnosed many years before who can be considered cured. Prevalence depends on incidence and survival, so the most frequent tumours with a good prognosis (breast in women and prostate) are those with the highest number of prevalent cases.

OP_12 Panel session 3: Epidemiological Use of Cancer Registry Data

Risk of thyroid as a first or second primary cancer. A population-based study in Italy, 1998-2012

Dr. Veronica Mattioli[1], Emanuele Crocetti[1], Luigino Dal Maso[1], AIRTUM working group[2]

[1]Cancer Epidemiology Unit, Centro di Riferimento Oncologico di Aviano (CRO) IRCCS, Aviano, Italy, [2]Members of AIRTUM Working Group: Carlotta Buzzoni, Silvia Franceschi, Diego Serraino, Salvatore Vaccarella, Stefano Ferretti, Susanna Busco, Ugo Fedeli, Massimo Varvarà, Fabio Falcini, Manuel Zorzi, Giuliano Carrozzi, Walter Mazzucco, Cinzia Gasparotti, Silvia Iacovacci, Federica Toffolutti, Rossella Cavallo, Fabrizio Stracci, Antonio Giampiero Russo, Adele Caldarella, Stefano Rosso, Antonino Musolino, Lucia Mangone, Claudia Casella, Mario Fusco, Giovanna Tagliabue, Daniela Piras, Rosario Tumino, Linda Guarda, Ylenia Maria Dinaro, Silvano Piffer, Pasquala Pinna, Guido Mazzoleni, Anna Clara Fanetti

Biography:

PhD in Applied Life and Health Sciences – Epidemiology and Biostatistic.

Aims:

The number of patients living after a cancer diagnosis is increasing, especially after thyroid cancer (TC). This study aims at evaluating both the risk of a second primary cancer (SPC) in TC patients and the risk of TC as a SPC.

Methods:

Two population-based cohorts of cancer patients aged up to 84 years were identified from 28 Italian cancer registries in the 1998–2012. The first included TC patients and the second patients with cancers other than TC. Standardized incidence ratios (SIR) of SPC were stratified by sex, age, and time since first cancer. SPC diagnosed within 2 months since first are shown but not included in the computation of cancer-specific SIRs.

Results:

38,535 TC patients and 1,368,159 patients with other primary cancers were included. Overall SIR for SPC in TC patients was 1.16 (95% CI: 1.12-1.21) but no increase was shown after follicular and medullary TC. SIR was significantly increased for bone/soft-tissue, breast, prostate, kidney, and hemolyphopoietic cancers. Among non-TC cancer patients, SIR for TC (SIR 1.49, 1.42-1.55) was similarly elevated for all TC subtypes. SIR was significantly increased for head and neck, colon-rectum, lung, melanoma, bone/soft tissue, breast, corpus uteri, prostate, kidney, central nervous system, and hemolymphoietic cancers.

Conclusion:

TC patients have both an increased risk of developing a SPC and TC as a SPC. The present finding may help in designing surveillance programs for second cancers in TC patients keeping into consideration the possibility of overdiagnosis of TC and, possibly, other malignancies.

10:20-11:00

Panel session 4: Epidemiological Use of Cancer Registry Data

OP_13

Indicators of standard care for skin melanoma, computed by combining Cancer Registry information and administrative health data in Veneto. First results from the iPAAC 7.2 Pilot Study

Roberto Lillini, Massimo Rugge, Stefano Guzzinati, Simone Bonfarnuzzo, Maria Chiara Magri, Pamelai Minicozzi, Milena Sant, Italy

OP_14

A Birth Cohort Analysis of the Incidence of Papillary Thyroid Carcinoma in Algerian Women, 1993-2013

Houda Boukheris, Noureddine Bachir Bouiadjra, Farouk Mohamed Brahim, Mohamed Boubekeur, Zineb Achour, Sarra Attar, Hafida Saim, Kaouel Meguenni, Necib Berber, Algeria

OP_15

Incidence trends of vulvar squamous cell carcinoma in Italy from 1990 to 2015

Silvia Mancini, Lauro Bucchi, Flavia Baldacchini, Orietta Giuliani, Alessandra Ravaioli, Rosa Vattiato, Mario Preti, Rosario Tumino, Stefano Ferretti, Annibale Biggeri, Angelita Brustolin, Lorenza Boschetti, Anna L. Caiazzo, Adele Caldarella, Rosaria Cesaraccio, Claudia Cirilli, Annarita Citarella, Rosa A. Filiberti, Mario Fusco, Rocco Galasso, Luciana Gatti, Fernanda L. Lotti, Michele Magoni, Lucia Mangone, Giuseppe Masanotti, Guido Mazzoleni, Walter Mazzucco, Anna Melcarne, Maria Michiara, Paola Pesce, Silvano Piffer, Angela Pinto, Magda Rognoni, Stefano Rosso, Massimo Rugge, Giuseppe Sampietro, Santo Scalzi, Tiziana Scuderi, Giovanna Tagliabue, Francesco Tisano, Federica Toffolutti, Susanna Vitarelli, Fabio Falcini, Italy

OP_13 Panel session 4: Epidemiological Use of Cancer Registry Data

Indicators of standard care for skin melanoma, computed by combining Cancer Registry information and administrative health data in Veneto. First results from the iPAAC 7.2 Pilot Study

Roberto Lillini[1], Massimo Rugge[2], Stefano Guzzinati[2], Simone Bonfarnuzzo[1], Maria Chiara Magri[1], Pamelai Minicozzi[3], Milena Sant[1]

[1]Analytical Epidemiology and Health Impact Unit. Fondazione Irccs “istituto Nazionale Dei Tumori”, Milano, Italy, [2]Veneto Tumour Registry – Azienda Zero, Padova, Italy, [3]Cancer Survival Group, Department of Non-Communicable Disease Epidemiology, London School of Hygiene and Tropical Medicine, London, United Kingdom

Biography:

Sociologist of Health and Statistician, Roberto Lillini worked from many years on cancer outcomes, socio-economic effects on population health, usage of administrative health and socio-economic database for population health analyses, health and social communication and media usage. Main health topics in articles: non-communicable diseases, infectious diseases, vaccination determinants.

Background and Aims:

The pilot study 7.2 of iPAAC Joint Action evaluates the feasibility of linking Cancer Registry individual patient’s data with current administrative and health data in order to describe the complete pathway of cancer patients from diagnosis to rehabilitation or terminal care.

Here we present the first results of the pilot, specifically the main indicators of standard care for cutaneous melanoma in the Veneto Cancer Registry (CR).

Materials and methods:

The Veneto CR provided data on 2143 melanoma prevalent cases at 01.01.2016 with the variables envisaged by the ENCR-EUROCARE-6 protocol. The CR also provided administrative health datasets from their current regional data sources (hospital discharge records, outpatient admissions, hospital and pharmacy drug prescriptions, integrated homecare, emergency room admissions, medical devices, local residential care, hospice admissions). A unique anonymized identification number allowed the record linkage between the different datasets and the CR data. Nine indicators of standard care were defined by the study protocol.

Results:

Record linkage produced a final dataset of 186 variables and 178,376 rows, expressing the taking in charge and prescriptions of all patients. The following results were recorded: stage IV cases receiving mutation testing = 5.6%; patients with a tumour thickness >1 mm receiving sentinel lymph node biopsy = 7.5%; metastatic cases treated with immunotherapy = 10.0%; Cases with information on the maximum thickness in millimetres = 15.2%; chemotherapy use in the last 2 weeks of life = 0.7%; dead patients with information on place of death (hospital, hospice or home) = 78.4%; hospital admission in the last 30 days before death = 18.6%; Intensive Care Unit admission in the last 30 days before death = 31.3%.

Conclusion:

Health administrative data and CR data can be profitably linked to provide useful information on the pattern of care and its effect on disease outcomes, enriching the CR information. But the sources providing these data are not routinely linked with CR data and the results of this pilot should advise how relevant such procedures could be for the CRs.

OP_14

Panel session 4: Epidemiological Use of Cancer Registry Data

A Birth Cohort Analysis of the Incidence of Papillary Thyroid Carcinoma in Algerian Women, 1993-2013

Dr. Houda Boukheris[1,2], Professor Noureddine Bachir Bouiadjra[3,4], Professor Farouk Mohamed Brahim[3,4], Professor Mohamed Boubekeur[4,5], Dr. Zineb Achour[6], Dr. Sarra Attar[6], Dr. Hafida Saim[6], Professor Kaouel Meguenni[6,7], Professor Necib Berber[7,8]

[1]University Abderrahmane Mira Of Bejaia,School of Medicine, Bejaia, Algeria, [2]Department of Epidemiology and Preventive Medicine, University Hospital of Bejaia, Bejaia, Algeria, [3]Department of surgery, University Hopsital of Oran, Oran, Algeria, [4]University of Oran, School of Medicine, Oran, Algeria, [5]Department of surgery, University Hospital of Oran (EHU), Oran, Algeria, [6]Department of Epidemiology and Preventive Medicine, University Hospital of Tlemcen, Tlemcen, Algeria, [7]University of Tlemcen, School of Medicine, Tlemcen, Algeria, [8]Department of Nuclear Medicine, University Hospital of Tlemcen, Tlemcen, Algeria

Biography:

Dr Houda Boukheris holds a medical degree and a post-graduate degree in epidemiology. She is a former IARC and NCI-NIH post-doctoral fellow. Her research interests focus on descriptive epidemiologic studies to enhance the understanding of cancer incidence patterns and trends in Algeria, using population-based cancer data.

Introduction:

The incidence of thyroid cancer (TC) has been increasing over the past two decades in Algeria, mostly due to an increase in the incidence of the papillary subtype (PTC) and small carcinomas (≤20 mm). Medical practices along with iodine deficiency and supplementation have been hypothesized to have caused the observed trends, at least in part. We used population-based data to analyze the effects of age, birth cohort and period of diagnosis on the incidence of PTC diagnosed in women between 1993 and 2013 in the district of Oran in Algeria.

Population and Methods:

Data on microscopically verified PTC diagnosed for the period 1993-2013 in women residing in Oran, were collected retrospectively through medical records and pathologic reports in 43 healthcare institutions involved in diagnosis activities, and management of thyroid conditions. We used the parametric age-period-cohort statistical model to analyze age, period and birth cohort effects on the incidence patterns of PTC and discuss etiologic hypotheses.

Results:

During the study period incidence of PTC has continuously increased (net drift: +10,2% ; CI 95%: 7,8%-12,7% ; p<0,0001). Age-period-cohort modeling showed an increased incidence starting at age 29 years, with higher incidence rates observed among women at the extreme ages of reproductive life. A period effect was observed in women, with significant increases in incidence rates from 2001 onward, and a clear birth cohort effect was present with the greatest rates observed in women born in the 1980s.

Conclusion:

The introduction of iodine supplementation in the 1990s to combat endemic goiter has possibly favored a shift from follicular carcinoma to PTC predominance. The robust period effect observed in the study is possibly due to changes in medical practice in Oran with the introduction of neck ultrasound in the early 1990s and fine needle aspiration in the late 1990s. In this context, the increase in the frequency of large thyroid surgeries had led to the incidental discovery of small indolent PTCs. The presence of a clear birth cohort effect is consistent with lifestyle changes and exposure to other known or still unknown risk factors, especially among younger generations.

OP_15 Panel session 4: Epidemiological Use of Cancer Registry Data

Incidence trends of vulvar squamous cell carcinoma in Italy from 1990 to 2015

Silvia Mancini[1], Lauro Bucchi[1], Flavia Baldacchini[1], Orietta Giuliani[1], Alessandra Ravaioli[1], Rosa Vattiato[1], Mario Preti[2], Rosario Tumino[3], Stefano Ferretti[4], Annibale Biggeri[5], Angelita Brustolin[6], Lorenza Boschetti[7], Anna L. Caiazzo[8], Adele Caldarella[9], Rosaria Cesaraccio[10], Claudia Cirilli[11], Annarita Citarella[12], Rosa A. Filiberti[13], Mario Fusco[14], Rocco Galasso[15], Luciana Gatti[16], Fernanda L. Lotti[17], Michele Magoni[18], Lucia Mangone[19], Giuseppe Masanotti[20], Guido Mazzoleni[21], Walter Mazzucco[22], Anna Melcarne[23], Maria Michiara[24], Paola Pesce[25], Silvano Piffer[26], Angela Pinto[27], Magda Rognoni[28], Stefano Rosso[29], Massimo Rugge[30], Giuseppe Sampietro[31], Santo Scalzi[32], Tiziana Scuderi[33], Giovanna Tagliabue[34], Francesco Tisano[35], Federica Toffolutti[36], Susanna Vitarelli[37], Fabio Falcini[1,38]

[1]Romagna Cancer Registry, IRCCS Istituto Romagnolo per lo Studio dei Tumori (IRST) “Dino Amadori”, Meldola , Italy, [2]Department of Obstetrics and Gynaecology, University of Torino, Torino, Italy, [3]Cancer Registry and Histopathology Department, Provincial Health Authority (ASP), Ragusa, Italy, [4]Romagna Cancer Registry, section of Ferrara, Local Health Authority, and University of Ferrara, Ferrara, Italy, [5]Department of Statistics, Computer Science, Applications G. Parenti, University of Florence, Florence, Italy, [6]Unit of Epidemiology and Cancer Registry, Local Health Authority, Viterbo, Italy, [7]Pavia Cancer Registry, Public Health Agency of Pavia, Pavia, Italy, [8]Cancer Registry of Local Health Authority Salerno, Salerno, Italy, [9]Tuscany Cancer Registry, Clinical and Descriptive Epidemiology Unit, Institute for Cancer Research, Prevention and Clinical Network (ISPRO), Florence, Italy, [10]Sassari Cancer Registry, Azienda Regionale per la Tutela della Salute – ATS, Sassari, Italy, [11]Modena Cancer Registry, Public Health Department, Local Health Authority, Modena, Italy, [12]Cancer Registry, Department of Prevention, Unit of Epidemiology, Local Health Authority, Benevento, [13]Liguria Cancer Registry, IRCCS Ospedale Policlinico San Martino, Genova, Italy, [14]Napoli 3 Sud Cancer Registry, Napoli, Italy, [15]Unit of Regional Cancer Registry, Clinical Epidemiology and Biostatistics, IRCCS-CROB, Basilicata, Rionero in Vulture, Italy, [16]Mantova Cancer Registry, Epidemiology Unit, Agenzia di Tutela della Salute (ATS) della Val Padana, Mantova, Italy, [17]Brindisi Cancer Registry, Local Health Authority, Brindisi, Italy, [18]Cancer Registry of Brescia Province, Epidemiology Unit, Brescia Health Protection Agency, Brescia, Italy, [19]Epidemiology Unit, Azienda Unità Sanitaria Locale – IRCCS di Reggio Emilia, Via Amendola 2, 42122 Reggio Emilia, Italy, [20]Section of Public Health and RTUP Register, Department of Experimental Medicine, University of Perugia, Perugia, Italy, [21]South-Tyrol Tumor Registry, Bolzano, Italy, [22]Department of Health Promotion, Maternal and Infant Care, Internal Medicine and Medical Specialties (PROMISE), University of Palermo, Palermo, Italy, [23]Lecce Province Cancer Registry, Lecce, Italy, [24]Parma Cancer Registry, Medical Oncology Unit, University Hospital of Parma, Italy, [25]Catania, Messina, and Enna Cancer Registry, Catania, Italy, [26]Trento Province Cancer Registry, Unit of Clinical Epidemiology, Trento, Italy, [27]Barletta, Andria, Trani Cancer Registry, BAT Province, Barletta, Italy, [28]Epidemiology Unit, Cancer Registry of ATS Brianza, Health Protection Agency, Monza, Italy, [29]Piedmont Cancer Registry, A.O.U. Città della Salute e della Scienza di Torino, Turin, Italy, [30]Veneto Tumour Registry, Azienda Zero, University of Padova-DIMED, Padova, Italy, [31]Bergamo Cancer Registry, ATS Bergamo, Bergamo, Italy, [32]Catanzaro ASP Cancer Registry, Catanzaro, Italy, [33]Trapani and Agrigento Cancer Registry, Trapani, Italy, [34]Lombardy Cancer Registry-Varese Province, Cancer Registry Unit, Department of Research, Fondazione IRCCS Istituto Nazionale Tumori, Milan, Italy, [35]Cancer Registry of the Province of Siracusa, Siracusa, Italy, [36]Cancer Epidemiology Unit, Centro di Riferimento Oncologico di Aviano (CRO) IRCCS, Aviano, Italy, [37]Macerata Province Cancer Registry, University of Camerino, Camerino, Italy, [38]Cancer Prevention Unit, Local Health Authority, Forlì, Italy

Biography:

I graduated in Statistics with a post degree Master in Health Research. After the degree, I had an internship at the National Cancer Registry of Ireland. I have been working at the Romagna Cancer Registry (Italy) since 2009. My main research interests are population-based epidemiological studies and cancer screening.

Objectives:

The incidence of vulvar squamous cell carcinoma has increased for decades in most Western countries – a trend virtually restricted to women aged <50 or 60 years. In southern Europe, conversely, the trends have been insufficiently studied. This article reports a study from Italy.

Methods:

Thirty-eight local cancer registries, currently covering 15,274,070 women, equivalent 49.2% of the Italian national

CONTINUED

OP_15

Panel session 4: Epidemiological Use of Cancer Registry Data

Incidence trends of vulvar squamous cell carcinoma in Italy from 1990 to 2015

CONTINUATION

↓

female population, participated. Invasive cancers registered between 1990-2015 with an International Classification of Diseases for Oncology, 3rd revision, topography code C51 and morphology codes compatible with vulvar squamous cell carcinoma (n = 6,294) were eligible. Incidence trends were analysed using joinpoint regression models, with calculation of the estimated annual percent change (EAPC), and age-period-cohort models.

Results:

Total incidence showed a regular and significant decreasing trend (EAPC, -0.96; 95% confidence interval (CI), -1.43 to -0.48). This was entirely accounted for by women aged ≥60 years (EAPC, -1.34; 95% CI, -1.86 to -0.81). For younger women, the EAPC between 1990 and 2012 was 1.20 (95% CI, 0.34 to 2.06) with a non-significant acceleration thereafter. This pattern did not vary substantially in a sensitivity analysis for the effect of geographic area and duration of the registry. The age-period-cohort analysis revealed a risk decrease in cohorts born between 1905 and 1940 and a new increase in cohorts born since 1945.

Conclusions:

The decreasing trend observed among older women and the resulting decrease in total rate are at variance with reports from most Western countries. Age-period-cohort analysis confirmed a decreasing trend for earliest birth cohorts and an opposite one for recent ones.

14:00-14:40

Panel session 5:
Clinical Use of Cancer Registries Data

OP_16

Variation in anatomic location by sex and survival from malignant melanoma of the skin in the GRELL countries

Veronica Di Carlo, Michel P Coleman, Claudia Allemani, The United Kingdom

OP_17

Impact of pregnancy on tumor characteristics and prognosis among young women diagnosed with breast cancer in Geneva

Robin Schaffar, Silvia Matos, Alexandre Bodmer, Pierre Chappuis, Simone Benhamou, Elisabetta Rapiti, Switzerland

OP_18

Decreasing Breslow tumour thickness and enhanced treatment have both contributed to improve survival from cutaneous malignant melanoma in Italy over the last two decades

Federica Zamagni, Lauro Bucchi, Silvia Mancini, Emanuele Crocetti, Luigino Dal Maso, Stefano Ferretti, Flavia Baldacchini, Orietta Giuliani, Alessandra Ravaioli, Rosa Vattiato, Angelita Brustolin, Giuseppe Candela, Giuliano Carrozzi, Ylenia Maria Dinaro, Margherita Ferrante, Silvia Iacovacci, Guido Mazzoleni, Maria Michiara, Sante Minerba, Silvano Piffer, Umberto Scala, Diego Serraino, Fabrizio Stracci, Rosario Tumino, Ignazio Stanganelli, Fabio Falcini, Italy

OP_16 Panel session 5: Clinical Use of Cancer Registries Data

Variation in anatomic location by sex and survival from malignant melanoma of the skin in the GRELL countries

Veronica Di Carlo[1], Prof. Michel P Coleman[1], Dr. Claudia Allemani[1]

[1]Cancer Survival Group, London School Of Hygiene And Tropical Medicine, London, United Kingdom

Biography:

Veronica is a Research Fellow in the Cancer Survival Group at the London School of Hygiene and Tropical Medicine. She works on CONCORD and VENUSCANCER programmes. She is also involved in the modelling of life tables for the countries participating in the studies.

Objectives:

To quantify variation in the anatomic location of malignant melanomas of the skin between the GRELL countries participating in CONCORD-3, and to estimate trends in age-standardised 5-year net survival by anatomic site for adults diagnosed during 2000-2014.

Methods:

We defined 5 topography groups based on ICD-O-3: head and neck, trunk, limbs, genital organs, and overlapping regions and not otherwise specified (NOS). We estimated net survival by topography and sex with the non-parametric Pohar-Perme estimator, correcting for background mortality in each country by single year of age, sex and calendar year. All-ages survival estimates were standardised using the International Cancer Survival Standard weights.

Results:

We analysed data for 199,894 adults (15-99 years) diagnosed with cutaneous malignant melanoma during 2000-2014 in 18 GRELL countries. Melanomas located on the limbs were the most common (43% of all cases). They accounted for 55% of melanomas in women and 31% in men. The percentage of tumours located on the trunk ranged from 20% in Latin America to 32% in Europe and they were proportionately more common in men (41%) than women (23%). Melanomas located on the head and neck ranged from 11% in Italy to 26% in Chile.

For patients diagnosed during 2010-2014, age-standardised 5-year net survival for melanomas located on the trunk was much lower in Latin American countries (range 63%-79%) than in European countries (86%-95%). Survival for melanoma on the limbs was particularly low in Ecuador (58%) in 2010-2014, but in the range 70-78% in all other countries in Central and South America; it ranged from 83% to 94% in Europe. 5-year survival for head and neck melanoma was as low as 66% in Chile and Colombia and higher than 90% in France and Switzerland.

Conclusions:

This analysis offers the most up-to-date survival estimates by anatomic location for patients diagnosed with cutaneous melanoma in the GRELL countries. It is crucial to investigate incidence and survival by anatomic location in order to be able to interpret geographical variation in survival between countries.

OP_17 Panel session 5: Clinical Use of Cancer Registries Data

Impact of pregnancy on tumor characteristics and prognosis among young women diagnosed with breast cancer in Geneva

Dr. Robin Schaffar[1], Mme Silvia Matos[1], Dr .Alexandre Bodmer[2], Professor Pierre Chappuis[2], Professor Simone Benhamou[1,3], Professor Elisabetta Rapiti[1]

[1]University of Geneva, Geneva, Switzerland, [2]Geneva University Hospitals, Geneva, Switzerland, [3]INSERM, Paris, France

Biography:

Robin Schaffar is a Senior research associate/Epidemiologist at the Geneva Cancer Registry with a PhD in Epidemiology at the London School of Hygiene and Tropical Medicine. Research interests: cancer epidemiology, longitudinal analyses, survival. Teaching pre- and post-graduate courses on epidemiology, biostatistics. He published 15 articles in peer reviewed journals.

Background:

Having children, particularly at young age, is a protective factor for breast cancer. However, breast cancer occurring during gestation and within 12 months of birth has been associated with a worse prognosis. The influence of full-term pregnancy on subsequent breast cancer is not well described.

This study evaluates, in a cohort of young women, whether there is a difference in the aggressiveness, molecular characteristics, management, and outcomes of breast cancer among those who have never had a full-term pregnancy versus those who have had one prior to diagnosis.

Material and methods:

Women aged 45 years or less and diagnosed with invasive breast cancer between 1985 and 2012 in Geneva were included in the study. Information on offspring were retrieved from the cantonal population office and clinical files. We created 4 subgroups of women: nulliparous, and those diagnosed with breast cancer within 12 months, 1-5 years and >5 years of childbirth. Data on individual and tumor characteristics, treatment, and outcomes (recurrence and death up to end of 2017) from the Geneva Cancer Registry were used to compare groups.

Results:

Of the 1147 women included in the study, 824 had children before their breast cancer diagnosis. A shorter period between childbirth and breast cancer was associated with a less differentiated tumor ($\chi2$ $p<0.002$), more advanced stage ($\chi2$ $p<0.03$) and negative hormone receptor status ($\chi2$ $p<0.004$). Compared to nulliparous women, those who had a child within the 12 months prior to diagnosis, and 1-5 years before, had higher risks of loco-regional and distant recurrences. This risk disappeared 6 years postpartum. Overall and breast cancer-specific survival did not differ by subgroup.

Conclusion:

Breast cancers diagnosed within 5 years of full-term pregnancy show more aggressive characteristics and a higher risk of recurrence. The management of breast cancer within 6 years of childbirth should take this increased risk into account.

OP_18

Panel session 5: Clinical Use of Cancer Registries Data

Decreasing Breslow tumour thickness and enhanced treatment have both contributed to improve survival from cutaneous malignant melanoma in Italy over the last two decades

Federica Zamagni[1], Lauro Bucchi[1], Silvia Mancini[1], Emanuele Crocetti[1], Luigino Dal Maso[2], Stefano Ferretti[3], Flavia Baldacchini[1], Orietta Giuliani[1], Alessandra Ravaioli[1], Rosa Vattiato[1], Angelita Brustolin[4], Giuseppe Candela[5], Giuliano Carrozzi[6], Ylenia Maria Dinaro[7], Margherita Ferrante[8], Silvia Iacovacci[9], Guido Mazzoleni[10], Maria Michiara[11], Sante Minerba[12], Silvano Piffer[13], Umberto Scala[14], Diego Serraino[2], Fabrizio Stracci[15], Rosario Tumino[16], Ignazio Stanganelli[17], Fabio Falcini[1,18]

[1]Romagna Cancer Registry, IRCCS Istituto Romagnolo per lo Studio dei Tumori (IRST) "Dino Amadori", Meldola, Italy, [2]Cancer Epidemiology Unit, Centro di Riferimento Oncologico di Aviano (CRO) IRCCS, Aviano, Italy, [3]Romagna Cancer Registry, section of Ferrara, Local Health Authority, and University of Ferrara, Ferrara, Italy, [4]UOC PreSAL-Dipartimento di Prevenzione ASL Viterbo, c/o Cittadella della Salute, Viterbo, Italy, [5]Trapani Cancer Registry, Dipartimento di Prevenzione della Salute, Servizio Sanitario Regionale Sicilia, Azienda Sanitaria Provinciale (ASP), Trapani, Italy, [6]Modena Cancer Registry, Public Health Department, Local Health Authority, Modena, Italy, [7]Siracusa Cancer Registry, Health Unit of Siracusa, Italy, [8]Integrated Cancer Registry of Catania-Messina-Enna, Azienda Ospedaliero-Universitaria Policlinico "Rodolico-San Marco", Catania, Italy, [9]Latina Cancer Registry, Lazio, , Italy, [10]South-Tyrol Tumor Registry, Bolzano, Italy, [11]Parma Cancer Registry, Medical Oncology Unit, University Hospital of Parma, Parma, Italy, [12]Registro tumori di Taranto, Unità operativa complessa di statistica ed epidemiologia, Azienda sanitaria locale Taranto, Italy, [13]Trento Province Cancer Registry, Unit of Clinical Epidemiology, Trento, Italy, [14]Cancer Registry - ASL Salerno, Salerno, Italy, [15]Public Health Section, Department of Experimental Medicine, University of Perugia, Perugia, Italy, [16]Cancer Registry and Histopathology Department, Provincial Health Authority (ASP), Ragusa, Italy, [17]Skin Cancer Unit, IRCCS Istituto Romagnolo per lo Studio dei Tumori (IRST) "Dino Amadori", Meldola, Italy, [18]Cancer Prevention Unit, Local Health Authority, Forlì, Italy

Biography:

I graduated in Statistics in 2019 at the University of Bologna, Italy. I am currently attending a Master in Biostatistics and Epidemiological Methodology at the University of Pavia, Italy, and carrying out study and research activities in the field of descriptive cancer epidemiology at the Romagna Cancer Registry.

Objectives:

Survival from cutaneous malignant melanoma (CMM) has increased for years in most western countries. So far, this has commonly been attributed to a trend towards lower Breslow tumour thickness. This study aimed to determine the relative role that the improvement in tumour thickness has played in the favourable trend in survival from CMM in Italy over the last two decades.

Methods:

Eleven Italian cancer registries, covering a population of 8,056,608 on 1 January 2010, provided incidence data for primary CMM registered between 2003-2017. Information on tumour thickness was retrospectively collected from the original case records. Age standardized 5-year net survival was calculated. The effect of the period of diagnosis on 5-year excess risk of death was evaluated with a Poisson regression model.

Results:

Over the study period as a whole, patient age, gender, histologic type, tumour site, area of residence (north-centre, south), time period of diagnosis (2003-2007, 2008-2012, 2013-2017), and tumour thickness were significantly associated with 5-year net survival. Significant time trends were observed in patient distribution by patient age, gender, histologic type, tumour site, and tumour thickness. The incidence of thin CMM increased more rapidly (estimated average annual percent change, 5.7; 95% CI, 4.6-6.7) than thick ones (2.6; 95% CI, 1.9-3.2). The median tumour thickness (both genders combined) was 0.83 mm in 2003-2007, 0.80 mm in 2008-2012, and 0.70 mm in 2013-2017. The net 5-year survival by 5-year time period increased from 87% (2003-2007) to 93% (2013-2017) for men ($P<0.001$) and from 91% to 93% for women

CONTINUED

OP_18

Panel session 5:
Clinical Use of Cancer Registries Data

Decreasing Breslow tumour thickness and enhanced treatment have both contributed to improve survival from cutaneous malignant melanoma in Italy over the last two decades

CONTINUATION

(P=0.114). After adjustment for patient age, gender, histologic type, and tumour site, the relative excess risk (RER) of death versus 2003-2007 was 0.90 (95% CI, 0.75-1.08) in 2008-2012 and 0.73 (95% CI, 0.59-0.91) in 2013-2017. When entering tumour thickness into the model, the RER changed to 0.98 (95% CI, 0.84-1.13) and 0.87 (95% CI, 0.73-1.03), respectively.

Conclusions:
A marked decrease in tumour thickness accounted only for about half of the improvement in survival observed in 2013-2017. The introduction of immunotherapy and targeted therapy after 2011 have had a prognostic impact of comparable size.

14:55-15:35

Panel session 6:
New Methods in Cancer Registries

OP_19

Machine learning Model for information extraction from pathology reports written in Spanish in a Population-based Cancer Registry

Nelson Alejandro Portilla Herrera, Luis Eduardo Bravo Ocaña, Oswaldo Solarte Pabon, Andres Mauricio Castillo Robles, Colombia

OP_20

Impact of comorbidity-adjusted life tables to correct for net survival: the example of patients with head and neck cancer

Marion Delaurens, Pascale Grosclaude, Laetitia Daubisse-Marliac, Sebastien Lamy, France

OP_21

Excess hazard models using multidimensional penalized splines: a novel methodology for the French cancer survival trends study

Emmanuelle Dantony, Zoé Uhry, Mathieu Fauvernier, Laurent Roche, Gaëlle Coureau, Morgane Mounier, Brigitte Trétarre, Nadine Bossard, Laurent Remontet, France

OP_19 Panel session 6: New Methods in Cancer Registries

Machine learning Model for information extraction from pathology reports written in Spanish in a Population-based Cancer Registry

System Engineer Nelson Alejandro Portilla Herrera[1], MD, MSc Professor Emeritus of Pathology Luis Eduardo Bravo Ocaña[1], MSc in computer science and systems engineering Oswaldo Solarte Pabon[2], PhD in computer science and systems engineering Andres Mauricio Castillo Robles[2]

[1]Population-based Cancer Registry of Cali, Cali, Colombia, [2]Universidad del Valle, Cali, Colombia

Biography:

I am a systems engineer and a master's student in computer science. I have been working at Cancer Registry for 3 years and my thesis is developed with its data. My area focuses on information extraction, data mining systems and data bases.

Background:

In Cali (Colombia) the oncology network generates around 250.000 free-text pathology reports annually. Information extraction and coding is a manual and labor-intensive process. Having an automatic information extraction process is essential to improve opportunity in cancer registries.

Purpose:

To automatically predict the presence of cáncer in pathology reports written in Spanish using a Machine Learning model.

Materials and methods:

185,670 unstructured Pathology Reports (PR) written in Spanish from twelve laboratories were analyzed. Five technicians from Cancer Registry classified 1,768 PR as cancer and randomly selected 3,536 negative PR. Using Natural Language Programming (NLP) they were automatically transformed into structured data defining variables of person, tumor, and clinical outcome. The PR text was divided into sentences and words, the biomedical category was extracted from each word using the Unified Medical Language System (UMLS), a database of two million concepts, supplemented with a denial evaluation system. Eleven characteristics were determined, and six supervised classification algorithms were trained. The model performance was evaluated using precision (P), recall (R), specificity (S).

Results:

3,406,184 concepts were categorized with the UMLS guidelines, 76,650 belonged to the "Neoplastic Process" category. The Decision Tree (DT) algorithm obtained P=97%, R=83% and S=99%. Naive Bayes (NB) algorithm: P=85%, R=83% and S=92%. Support Vector Machine (VM) algorithm: P=96%, R=81% and S=99%. Artificial Neural Networks (ANN) algorithm: P=97%, R=82% and S=99%. Nearest Centroid (NC) algorithm: P=80%, R=82% and S=90%. Descending Gradient Stochastic (DGS) algorithm: P=97%, R=82% and S=99%.

Discussion:

The automatic information extraction processing and training of the classification models were developed using the Python programming language. This high-level language has many data mining tools that make it an essential system for Cancer Registries. The DT, ANN, and DGS models performed better because these algorithms are fault-tolerant, their precision could improve with greater computational power. The worst performance was the NC model because this algorithm is focused on unsupervised classification such as clustering systems. The DT, ANN, DGS models are reliable for the automatic classification of cancer diagnoses obtained from pathology reports written in Spanish and can be used by other Colombian and Latin American Cancer Registries.

OP_20

Panel session 6: New Methods in Cancer Registries

Impact of comorbidity-adjusted life tables to correct for net survival: the example of patients with head and neck cancer

Marion Delaurens[1], **Pascale Grosclaude**[1,2,3], **Laetitia Daubisse--Marliac**[1,2,3], **Sebastien Lamy**[1,2,3]

[1]Cerpop, Université De Toulouse, Inserm, Ups, Toulouse, France, Toulouse, France, [2]Tarn cancer registry, Albi, France, [3]Group for research and Analyses in Population health (GAP), Claudius Regaud Institute, Toulouse University Cancer Institute – Oncopole, Toulouse, France

Biography:

A oncology nurse by training, I am currently a master's student in epidemiology. I am doing my internship with the group for research and analyses in population based at Oncopole in Toulouse. This study is my first steps in the epidemiology environment.

Objectives:

We aimed at assessing the impact of a proper correction compared to an incomplete correction in the estimation of net survival, frequently used by cancers registries, with the example of comorbidities adjustment.

Methods:

Incident ear-nose-throat (ENT) cancer cases between 2011 and 2014 were identified from a 1/97 sample of the French National Health insurance database (EGB) based on ICD10-codes (C00-14, C30-C32) for hospital diagnoses, drug consumption and medical procedures, with a maximum follow-up of 5 years. Comorbidities were assessed by the Charlson comorbidity index (CCI) split into four classes: null (CCI=0), moderate (CCI=1 or 2), intermediate (CCI=3 or 4), and severe (CCI>=5). Both overall and net survival were estimated at 1, 3 and 5 years. We used life tables by age, sex and comorbidity we built on the general population of the EGB to correct the estimation of net survival. First, we described the overall survival of ENT cancers population using Kaplan-Meier and Cox estimators. Then, we used the Ederer II estimator in Dickman's strs STATA package, using either the classical life table or the life table by age, sex, and comorbidity.

Results:

Primary results confirm higher comorbidity frequency among the cases compared to the whole EGB population. For instance, hepatic pathologies are between two to three-fold more frequent among the cases depending on their degree of severity. At 1, 3 and 5 years, overall survival [95% CI] was respectively 0.77 [0.73; 0.80], 0.56 [0.52; 0.60], 0.49 [0.45; 0.53] and the relative survival was 0.78 [075; 0.82], 0.60 [0.56; 0.64] and 0.54 [0.50; 0.59]. As expected, overall survival decreases with the level of comorbidity. At 5 years, it is 0.59 [0.53; 0.64] for a null score against only 0.20 [0.11; 0.30] for a severe score. Net survival analyses using life table by sex, age and comorbidity yield 1, 3 and 5 years estimates of 0.81 [0.78; 0.85], 0.65 [0.60; 0.69], and 0.61 [0.56; 0.65].

Conclusions:

Our results emphasis the importance of a life table adjustment as close as possible to the population under study. This is particularly true when cancer population characteristics are expected to differ from the general population, e.g. for ENT cancers.

OP_21

Panel session 6: New Methods in Cancer Registries

Excess hazard models using multidimensional penalized splines: a novel methodology for the French cancer survival trends study

Ms. Emmanuelle Dantony[1,2], Ms. Zoé Uhry[1,2,3], Dr. Mathieu Fauvernier[1,2], Mr. Laurent Roche[1,2], Dr. Gaëlle Coureau[4,5], Dr. Morgane Mounier[6], Dr. Brigitte Trétarre[7,8], Dr. Nadine Bossard[1,2], Mr. Laurent Remontet[1,2]

[1]Hospices Civils De Lyon, Pôle Santé Publique, Service de Biostatistique - Bioinformatique, Lyon, France, [2]Université de Lyon, Université Lyon 1, CNRS, UMR 5558, Laboratoire de Biométrie et Biologie Évolutive, Équipe Biostatistique-Santé, Villeurbanne, France, [3]Département des Maladies Non-Transmissibles et des Traumatismes, Santé Publique France, Saint-Maurice, France, [4]Equipe EPICENE, Inserm U1219, Bordeaux Population Health, Bordeaux, France, [5]Service d'information médicale, Pôle santé publique, CHU de Bordeaux, Bordeaux, France, [6]Registre des Hémopathies Malignes de Côte-d'Or, CHU Dijon-Bourgogne ; Inserm U1231, équipe SAPHIHR, Dijon, France, [7]General Cancer Registry of Hérault, ICM, Montpellier, France, [8]FRANCIM, network of French Cancer Registries, Toulouse, France

Biography:

I joined the Biostatistics Department of Hospices Civils de Lyon in 2006. My main research topics were analyses of high-dimensional data and multi-state modeling. In 2015, I joined the Department's team specialized in cancer epidemiology and participated since then in issuing country-wide statistics on cancer incidence, mortality, and survival.

Objectives:

Net survival and excess mortality hazard are key indicators in cancer epidemiology since they allow comparisons (between sexes, ages, years, countries…) unaffected by other causes of mortality. The main objective of the French cancer survival study was to perform detailed trends (1990-2015) analyses of 10-years net survival and excess mortality hazard for 73 cancer types or sub-types. In addition, the study also provides estimates of both 5-years indicators for the recent period 2010-2015 (including more registries than in the trend analyses) and long-term 20-years indicators. These analyses require flexible excess hazard modelling, which remains a challenging issue, especially for trend analyses. This presentation aims to detail the statistical method used and to illustrate the results obtained.

Methods:

Data relative to cases diagnosed between 1989 and 2015 (follow-up June 2018) were extracted by the cancer registries. The analyses were performed using excess hazard models based on multidimensional penalized splines (MPS), implemented in R package survPen. MPS allow considering simultaneously non-linear effects, time-dependent effects and interactions while penalization reduces the risk of over-fitting.
For trends analyses, a MPS of age, time since diagnosis and year of diagnosis was confronted to four simpler penalized models with various degrees of complexity of the year-effect, using a corrected version of the AIC. Data were restricted to registries covering the whole period (historical registries).
For analyses over period 2010-2015, all registries were included whereas analyses for long-term indicators concerned cases diagnosed 1989-2000 from historical registries. MPSs of age and time were used for both analyses.
Models were graphically assessed by comparing the results to Pohar-Perme estimates and to piecewise constant excess hazard models.

Results:

For each type of cancer, results included the dynamic of the excess hazard and net survival by age, and by year for the trends analyses, as well as age-standardized net survivals. Graphical assessments of the models were systematically presented.

Conclusion:

Providing the dynamic of the excess mortality hazard enriches net survival studies and should be encouraged. MPS allowed studying a wide variety of epidemiological profiles and provided reliable estimation of excess hazard and net survival.

E-Poster Abstracts

THEMES

LEGEND

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A – Cancer Screening

P_1

Socio-territorial inequities in the French National Breast Cancer Screening Programme – A cross-sectional multilevel study

M. Quentin Rollet[1], Dr. Élodie Guillaume[1], Mrs. Ludivine Launay[1], Pr. Guy Launoy[1]

[1]U1086 "anticipe" Inserm-University of Caen Normandie, France

P_2

Five-year annual incidence and clinico-molecular features of breast cancer after the last negative screening mammography at age 68-69

Lauro Bucchi[1], Mrs. Alessandra Ravaioli[1], Flavia Baldacchini[1], Orietta Giuliani[1], Silvia Mancini[1], Rosa Vattiato[1], Paolo Giorgi Rossi[2], Cinzia Campari[3], Debora Canuti[4], Enza Di Felice[5], Priscilla Sassoli de Bianchi[5], Stefano Ferretti[6], Nicoletta Bertozzi[5], Fabio Falcini[1,7]

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P_3

Determination of breast cancer screening patterns in France from different data sources

Miss Marie Poiseuil[1,2], Mrs. Florence Molinié[3,4], Mrs. Tienhan Sandrine Dabakuyo-Yonli[5,6], Mrs. Anne Cowppli--Bony[3], Mr. Brice Amadeo[1,2], Mrs. Gaëlle Coureau[1,2]

[1]Gironde General Cancer Registry, Bordeaux, France, [2]Inserm, Bordeaux Population Health, Research Center U1219, Team EPICENE, Bordeaux, France, [3]Loire-Atlantique/Vendée cancer registry, Nantes, France, [4]SIRIC-ILIAD, INCA-DGOS-Inserm_12558, CHU Nantes, Nantes, Bordeaux, [5]Breast and Gynecologic Cancer Registry of Côte d'Or, Georges Francois Leclerc Comprehensive Cancer Centre, Dijon, France, [6]Epidemiology and Quality of Life Research Unit, INSERM U1231, Dijon, France

B – Childhood, Adolescent and young adults Cancer

P_4

Spatial cluster analysis of childhood cancer in Pavia Province, Italy

Medical Doctor Lorenza Boschetti[1]

[1]Agenzia Di Tutela Della Salute-ats Pavia, Pavia, Italy

P_5

Paediatric sarcoma stage assigned applying the Toronto guidelines to hospital discharge

Dr. Sabrina Fabiano[1], Dr. Sabrina Fabiano[1], Dr. Viviana Perotti[1], Dr. Paolo Contiero[2]

[1]Cancer Registry Unit, Fondazione IRCCS Istituto Nazionale dei Tumori, Milan, Italy, [2]Environmental Epidemiology Unit, Fondazione IRCCS Istituto Nazionale dei Tumori, Milan, Italy

P_6

Excess risk of Second malignant neoplasms in Adolescents and Young Adult cancer survivors in Italy and Spain: a comparative study

Dr. Alice Bernasconi[1], Annalisa Trama[1], Laura Botta[1], Arantza Lopez De Munain Marques[2], and the Ada Working group

[1]Fondazione IRCCS Istituto Nazionale Dei Tumori Di Milano, Milano, Italy, [2]Basque Country Cancer Registry. Health department/Basque Government, Spain

P_7

Seasonal variations in childhood leukaemia incidence in France, 1990--2014

Mrs. Sophie Bamouni[1,2], M Denis Hémon[1,2], Mrs. Laure Faure[1,2,3], Dr. Jacqueline Clavel[1,2,3], Mrs. Stéphanie Goujon[1,2,3]

[1]Inserm, UMR 1153 Center of Research in Epidemiology and StatisticS (CRESS), Epidemiology of childhood and adolescent cancers team (EPICEA), Villejuif, France, [2]Université de Paris, Paris, France, [3]French National Registry of Childhood Hematological Malignancies (RNHE), Villejuif, France

P_8

Incidence of hematopoietic and lymphoid tissue neoplasms in children and adolescents (2015-2017): results of the Population-based Cancer Registry of the Community of Madrid

Raquel López González[1,2], David Parra Blázquez[2], Belén Zorrilla Torras[2], Nuria Aragonés Sanz[2,3]

[1]Fundación para la Investigación e Innovación Sanitaria en Atención Primaria, Madrid, Spain, [2]Dirección General de Salud Pública, Comunidad de Madrid, Madrid, España, [3]CIBER de Epidemiología y Salud Pública (CIBERESP), Madrid, España

P_9

Predicting cardiovascular diseases in adolescent and young breast cancer patients (ROSANNA)

Dr. Annalisa Trama[1], Dr. Laura Botta[1], Dr. Alice Bernasconi[1]

[1]Fondazione Irccs Istituto Nazionale Dei Tumori Di Milano, Milano, Italy

P_10

Occurrence of second primary malignant tumours following childhood cancer in GRELL and other European countries: an exploratory study

Dr. Carmen Martos[1], Dr. Francesco Giusti[1], Dr. Luciana Neamtiu[1], Dr. Giorgia Randi[1], Dr. Manuela Flego[1], Dr. Raquel Carvalho[1], Tadeusz Dyba[1], Dr. Nadya Dimitrova[1], MSc Manola Bettio[1]

[1]European Commission, Joint Research Centre, Ispra, Italy

P_11

Childhood cancer survival in the GRELL countries, the EUROCARE 6 results

EUROCARE 6 WG, Dr. Laura Botta[1], Gemma Gatta[1], Riccardo Capocaccia[2], Silvia Rossi[3]

[1]Epidemiologia valutativa, Fondazione IRCCS Istituto Nazionale dei Tumori, Milan, Italy, [2]Editorial Board, Epidemiologia e Prevenzione, Milan, Italy, [3]Department of Oncology and Molecular Medicine, Italian National Institute of Health (ISS), Rome, Italy

P_12

Incidence of thyroid cancer in children and adolescents in Campania: a population-based study

Camilla Calì[1], Marcella Sessa[1], Fabio Savoia[1], Patrizia Piga[1], Francesco Vetrano[1]

[1]Childhood Cancer Registry of Campania – Santobono Pausilipon Hospital, Napoli, Italy

P_13

The International Benchmarking of Childhood Cancer Survival by Stage in the GRELL countries (BENCHISTA international project)

Gemma Gatta[1], Laura Botta[1], Riccardo Capocaccia[2], Kathy Pritchard-Jones[3], Benchista working group[4]

[1]Fondazione IRCCS Istituto nazionale dei tumori, Milan, Italy, [2]Epidemiologia e prevenzione editorial board, Milan, Italy, [3]University College London, London, UK, [4]Many affiliations, several towns, many countries

P_14

Descriptive epidemiology of childhood cancer in Cali, Colombia 2000-2020

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C – Clinical Use of Cancer Registries Data

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Neoadjuvant chemoradiotherapy as an improved prognostic over rectal cancer patients. A -decade study and its characterization

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Clinical epidemiology of microinvasive cervical carcinoma in an Italian population (1995-2016)

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Prognostic factor and overall survival in women with breast cancer by molecular subtype: a hospital registry-based retrospective cohort of São Paulo, Brazil

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Trends in endocrine therapy prescription and survival in patients with non-metastatic hormone receptor positive breast cancer treated with endocrine therapy: a population based-study

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Comparison of time to treatment in breast cancer between screened versus non-screened women in Tarragona, Catalonia, Spain

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To what extent do age, stage and treatment influence survival after invasive cervical cancer: a French population-based study

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Mammography screening and mastectomy for early breast cancer: a population-based 25-year trend study from northern Italy

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D – COVID-19 and Cancer

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The impact of COVID-19 on the accessibility of cancer patients to Hospital de Braga

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Mortality from respiratory infections and chronic non-communicable diseases before the COVID-19 pandemic in Cali, Colombia

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Impact on cancer registration and cancer care of the first wave of the COVID-19 pandemic in GRELL and other European countries

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E – Epidemiological Use of Cancer Registry Data

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The role of multimorbidity in short-term mortality of lung cancer patients in Spain: A population-based cohort study

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Colorectal cancer incidence in increasing among young adults in Uruguay

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Trends in Pancreatic Cancer Mortality in the city of São Paulo and regional health centers from 1996-2017

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Global and specific burden of breast cancer in women Pasto – Colombia 2010-2014

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Risk of death by causes other than breast cancer by molecular subtype, stage and adherence to treatment in breast cancer patients of Tarragona and Girona, Catalonia, Spain

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Childhood Head and Neck Cancer in France: Incidence, survival and trends from 2000 to 2015

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The WASABY Environmental Pilot Study in Alto Adige area

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Serum Bisphenol-A concentrations and cancer in the Murcia-cohort in the Spanish European Prospective Investigation into Cancer and Nutrition

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Advanced breast cancer: survival trends for women diagnosed during 2001-2014 in 10 GRELL countries (CONCORD-3)

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The rising Incidence Trends of Thyroid Carcinomas in Algeria. True Increase or Overdiagnosis?

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Epidemiology of cutaneous malignant melanoma in Reunion Island

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Survival of bladder cancer in France, 1989-2018: Interpreting an adverse trend

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Colorectal cancer in the young adult: analysis of Marche's tumor registry

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The epidemiology of multiple primary cancers in Belgium (2004-2017): proportion, risk and impact on relative survival estimates

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ETIOSARC study: environmental aetiology of sarcomas from a French prospective multicentric population-based case control study

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Incidence of lung cancer by activity sector among employees: first results of a pilot study in France (2010-2014)

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National Estimates and Trends in Lip, Oral cavity and Pharyngeal cancers incidence by subsite in France over 1990-2018

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Trend in breast cancer incidence among young women in the Manche French department

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Mesothelioma data quality in GRELL and other European countries: geographical and temporal variability

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PSA levels at prostate cancer diagnosis in 2001 and 2008-2016 in France: a population-based study

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Breast Cancer in Cuba

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F – Hemato-Oncology

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Risk of Myocardial Infarction in patients with Multiple Myeloma. An analysis from two population databases in Côte d’Or

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Incidence of hematological malignancies in Navarra (2002-2012)

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S-LAM project: initial therapeutic management of acute myeloblastic leukemia in three specialized registries areas in France

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S-LAM project: incidence of acute myeloblastic leukaemia subtypes in three specialized hematological malignancies registries in France.

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Is survival of major lymphoid malignancies subtypes still increasing in the French population?

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G – New Methods, new Data, new Use in Cancer Registries

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RHESOU (Hérault Registry specialized in Onco-Urology) 1st French registry: 2 years of experience (2017-2018)

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Cancer mapping in Tarragona, Catalonia, Spain: Comparison of models for small areas

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Treatment patterns and survival outcomes of chronic lymphocytic leukaemia in Portugal: results from a population-based cancer registry cohort study

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Strategies in the search and data collection of the Entre Rios tumor registry (RPPTER) to establish the stage and vital status of breast cancer patients for the period 2008-2012

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Specification for electronic archiving of Cancer Registry Data – CEF eArchiving Building Block (E-ARK3 project)

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Feasability of the implementation of a monitoring system of cancer incidence among employees in France

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Estimating disease-free survival and recurrence in breast cancer patients

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The first population-based cancer registry implemented in Mexico

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H – Quality of Care

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Adherence to clinical practice guidelines and colorectal cancer survival: A retrospective high-resolution population-based study in Spain

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Compliance with clinical guidelines for breast cancer management in France

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Study of the completeness of the presentation to a multidisciplinary team meeting for colon cancer in a French area: a collaborative study

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I – Social Inequalities and Cancer

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Socioeconomic Inequalities in Colorectal, Lung, and Breast Cancer Incidence in Spain: A multilevel Population-based Study

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Incidence of Gastric Cancer and Human Development Index in Brazil

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Waiting time for diagnosis and treatment for breast cancer in Brazil

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Influence of the rural-urban covariate on the lung cancer incidence risk in the province of Tarragona, Catalonia, Spain between 2000 and 2014

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Socioeconomic determinants of cervical cancer mortality in Pasto – Colombia 2007-2016

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How does social environment affect survival in patients with breast or gynecological cancer in France?

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J – Survival and Quality of Life

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Cancer survival trends in adult patients in Spain, 2002-2013: a population-based study of the Spanish Network of Cancer Registries (REDECAN)

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Survival of women with breast and gynaecologic cancers in Navarra, Spain, 2000-2013

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Cause-specific survival of patients with cutaneous malignant melanoma (CMM) in Manizales, Colombia (2006-2015): a population-based study

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What are young women living conditions after breast cancer? Health-related quality of life, sexual and fertility issues, professional reinsertion

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Long term colorectal cancer survival in France: a population-based study

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Head and neck cancer survival in France, 1989-2018: a population-based study

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P_74

Survival of myeloid malignancies in France from 1989 to 2018 in general population: what's new?

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Cutaneous melanoma survival in France, 1989-2018: a population-based study

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Recent trends in prostate cancer survival in France: 1989-2018, a population-based study

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P_77

Solid cancer survival in France, 1989-2018: a population-based study

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P_78

Assessment of breast cancer survival in a northeastern Brazilian state, stratified by prognostic factors

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P_1

Socio-territorial inequities in the French National Breast Cancer Screening Programme – A cross-sectional multilevel study

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Biography:

I am a third year PhD student.

Background:

France has implemented in 2004 the French National Breast Cancer Screening Programme (FNBCSP). Despite national recommendations, this programme coexist with non-negligible opportunistic screening practices.

Aim:

Measure socio-territorial inequities in the 2013-2014 FNBCSP campaign in a large sample of the eligible population.

Material and methods:

Analyses were performed using three-level hierarchical generalized linear model. Level one was a 10% random sample of the eligible population in each departement (n = 397,598). For each women, age and travel time to the nearest accredited radiology centre were computed. These observations are nested within IRIS (n = 22,250), for which the European Deprivation Index is defined. IRIS are nested within departements (n = 41), for which opportunistic screen-ing rates and gross domestic product based on purchasing power parity were available, and deprivation and the number of radiology centres for 100,000 eligible women were computed.

Results:

Across departements, organized screening uptake increased with age (OR1SD = 1.05 [1.04 – 1.06]) and decreased as travel time (OR1SD = 0.94 [0.93 – 0.95]) and IRIS deprivation (OR1SD = 0.84 [0.83 – 0.85]) increased. There was a stronger effect of travel time as age increased (OR1SD = 0.99 [0.98 – 1.00]). Between departements, organized screening uptake decreased with higher opportunistic screening rate (OR1SD = 0.84 [0.79 – 0.87]) and departements deprivation (OR1SD = 0.91 [0.88 – 0.96]). Interestingly, we found that the strength of IRIS deprivation was lowered as opportunistic screening rates increased – that could be explained by higher opportunistic participation among the wealthiest. Strength of IRIS deprivation was also lowered as departements deprivation increased, with lower participation among the wealthiest. In the final model, heterogeneity in FNBCSP participation between IRIS was reduced by 36% and between departements by 82%.

Conclusion:

FNBCSP does not erase socio-territorial inequities. The population the more at risks of dying from BC is thus the less participant. More efforts are needed to improve equity. Lack of more detailed data on opportunistic screening practices makes it impossible to estimate the true screening coverage of the population and could lead to underestimate screening coverage inequities.

P_2

Five-year annual incidence and clinico-molecular features of breast cancer after the last negative screening mammography at age 68-69

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Biography:

I graduated in Statistics with a post degree Master in Biostatistics. I have been working at the Romagna Cancer Registry (Italy) since 2001. My main research interests are population-based epidemiological studies and cancer screening.

Objectives:

The European Commission Initiative on Breast Cancer recommendation for triennial screening of women aged 70-74 is based on very weak evidence. A cohort of Italian women who had their last biennial screening mammography at age 68-69 was followed-up for five years, assumed to represent the interval to another hypothetical screening mammography, in order to determine the annual proportional incidence of interval breast cancer (equal to 1 minus mammography sensitivity).

Methods:

The cohort included 118,370 women. They had their last mammography between 1997 and 2008. Incident breast cancers were identified by record-linking the cohort with the regional Breast Cancer Registry. The expected incidence in the age range 65-74 years was estimated with an age-period-cohort model. The number of interval cancers was divided by the expected number to obtain the proportional incidence.

Results:

Overall, there were 298,658 women-year at risk with 371 interval cancers versus 988.8 expected. The third-year proportional incidence of breast cancer was 0.60. The 95% confidence interval, 0.49-0.73, included 0.50 – the maximum limit considered acceptable for women aged 50-69. There were no significant tumour stage differences between cancers detected in the first, third, fourth, and fifth interval year and second-year cancers. The distribution by major molecular subtype, did not vary significantly between first-, third-, fourth-, and fifth-year cancers and second-year cancers. Between the first and the fifth interval year, the proportion of TN breast cancers out of the total decreased to a significant extent (chi-square for linear trend (1 degree of freedom) = 4.695, P = 0.0302.

Conclusions:

The hypothesis of a three-year screening interval for women aged 70-74 merits consideration and further evaluation.

P_3

Determination of breast cancer screening patterns in France from different data sources

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Biography:

Marie Poiseuil is in the third year of her PhD in epidemiology at the Gironde general cancer registry and is working on the survival of women with breast cancer according to their participation in screening and also the reasons for participation and non-participation in screening.

Background:

Today in France, two types of breast cancer screening are offered to women: organised breast cancer screening (OBCS) and opportunistic screening (OppS). OBCS is managed by departmental screening structures that invite the 50-74 years old women without risk factors. The participation rate for this screening was less than 50% in 2019. In parallel, OppS is carried out as part of the health care system, at the doctor's initiative. In 2011, it was estimated around 10% for women aged 50 to 74. However, OppS remains difficult to identify because it is not coordinated. Our objective was to identify, from different data sources, the type of screening carried out by women diagnosed with breast cancer.

Methods:

We identified women aged 50 to 74 diagnosed with breast cancer from2009 to 2015, in 4 French areas covered by a cancer registry. By data linkage between registry database and 1) databases from the screening structures and 2) the National Health Data System (SNDS), we were able to identify the screening pattern for each woman. From the cross-referencing with the screening structures, we identified the women who participated in the OBCS. For women who did not participate to OBCS, we identified the type of surveillance they had received prior to their cancer diagnosis from the mammography procedures recorded in the SNDS database and the time between each mammography. A decision tree was created to differentiate women who had regular or irregular surveillance and those without surveillance.

Results:

Among the 14,210 women with breast cancer diagnosed in the 4 areas during this period, 74% had participated in OBCS; 12% had had mammographic surveillance before diagnosis considered as OppS, and 14% did not have had any screening.

Conclusion:

Based on data from cancer registries, screening structures and the SNDS, we can define participation patterns for women with breast cancer. This provides an additional information for the estimation of the proportion of OppS in women diagnosed with breast cancer in France. Survival analyses can be performed according to the screening profiles.

P_4

Spatial cluster analysis of childhood cancer in Pavia Province, Italy

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Biography:

In 1982 Degree in Medicine and Surgery. She has been working since 1991 at Public Health Agency Pavia, since 2010 in the Cancer Registry staff and from 2016 she is head of the Pavia Province Cancer Registry. She participates in national and international epidemiological studies and local reports.

Background:

The area covered by the Cancer Registry (CR) of Pavia Province is characterized by environmental problems: climatic for its placement in the Po Valley, and also due to the presence of high-impact industrial sites; indeed spatial distribution of childhood cancer cases has been under concern with the aim of identifying potential risk factors.

Aim:

We aimed to investigate the spatial distribution of childhood cancers (aged 0-19 years) in Pavia province and the eventual presence of territorial clusters.

Methods:

From the Pavia Province CR all the cancers registered in the age group between 0 and 19 years at diagnosis were extracted. The tumors were classified according to International Classification of Childhood Cancer (ICCC, Cancer 2005). The overall frequency and distribution by year of the most frequent types of cancer were processed and represented.

Subsequently the data were processed with SaTScan software (https://www.satscan.org/) to identify the presence of clusters with greater incidence risk, using purely spatial analysis or retrospective space-time analysis, looking for clusters with high rates using the discrete Poisson model.

Results:

A total of 273 cases were extracted from the CR in the incidence years between 2003 and 2017. Of these, 169 were male and 104 female. The cases were analyzed with SaTScan v.9.6.1 to search for areas of excess risk, both with exclusively spatial and retrospective space-time analysis. No statistically significant clusters have been detected.

Conclusions:

In the area covered by Pavia Province Cancer Registry, for pediatric patients (year 2003-2017) no areas with excess risk have been detected.

P_5

Paediatric sarcoma stage assigned applying the Toronto guidelines to hospital discharge

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Biography:

Giovanna Tagliabue is an experienced epidemiologist concerned with cancer registration and registration of birth defects. Head of Cancer Registry Unit and Lombardy Registry of Congenital Malformations. She also has a background in anticancer pharmacology, having studied the mechanisms of action of various anticancer agents.

Background:

Cancer stage at diagnosis at the population level is essential information for cancer surveillance and control. However population-based cancer registries lack stage information for pediatric cancers (Aitken JF, Lancet Child Adolesc Health, 2018). Hospital discharges are a possible alternative source of information in cancer-related events such as relapse (Medical care, 2018) although it may be difficult to obtain stage information from administrative databases; furthermore data are generally restricted to single institutions limiting their generalizability (Pharmacol Drug Saf, 2012). The Toronto system is a paediatric cancer staging system designed to apply to information from population-based datasets (Cancer Epidemiol, 2019;59:208-214) when it is difficult to abstract sufficient information for reliable staging.

Aim:

To ascertain the feasibility of staging paediatric sarcomas applying the Toronto guidelines to data from hospital discharges.

Methods:

Sarcomas (ICD9CM: 170,171, 195, 2380, 2381, 2389, 2392, 2397, 2398, 2399) archived in the Varese Cancer Registry, diagnosed in patients aged 0-19 from 1989 to 2012, were randomly sampled. We manually inspected the diagnostics and procedural codes (ICD9CM) present in hospital discharges of the sampled cases and assigned stage according to the Toronto guidelines. We then used stage information from clinical records as gold standard to validate the stage assigned by hospital discharges/Toronto.

Results:

We sampled 56 pediatric sarcoma cases: 69.6% were assigned as non-metastatic and 30.4% as metastatic at diagnosis from hospital discharges/Toronto. Comparison of assigned stage with stage from clinical records revealed 94.7% agreement. Disagreements (5.3%) occurred when diagnosis and diagnostic procedures on discharges differed from those on clinical records.

Conclusion:

This is the first use of hospital discharges to stage paediatric sarcomas in a population-based dataset. Use of the Toronto system allowed us to assign the correct stage to 94.7% of cases. From this small study we conclude that hospital discharges are a good surrogate for clinical records, notwithstanding limitations due to the fact that they were designed to monitor resource utilization. In addition, hospital discharges are much more easily assessed and consulted than clinical records.

P_6

Excess risk of Second malignant neoplasms in Adolescents and Young Adult cancer survivors in Italy and Spain: a comparative study

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Biography:

I'm a biostatistician, working at Evaluative Epidemiology unit of Fondazione IRCCS Istituto Nazionale dei tumori di Milano, Italy, since 4 years. My reasearch areas are cancer in Adolescents and Young Adults and Survivorship isssues.

Introduction:

Secondary malignant neoplasms (SMNs) are one of the most life-threatening sequelae of adolescent and young adult (AYA) cancer survivors. SMNs risk can be associated with the same risk factors of the first tumor (eg. lifestyle, environment). Because risk factors may change across countries, previous studies undertaken on a specific population might not be generalizable. We estimated excess risk of SMNs in AYA cancer survivors in Italy and Spain.

Methods:

In Italy we used the "Ada" cohort made by 34 cancer registries (CRs); in Spain we used the Basque CR. CRs identified AYA with cancer and linked to them all their subsequent tumors. All SMNs occurring in AYA cancer survivors were included in the analysis without any time latency restriction. The excess risk of SMNs in AYA cancer survivors was estimated by standardized incidence ratios (SIRs), absolute excess risks (AERs) and cumulative incidence.

Results:

The Italian cohort included 67,692 AYA cancer survivors diagnosed 1976-2013 (median follow-up=8 years). The Spanish cohort included 9,100 AYA cancer survivors diagnosed 1986-2014 (median follow-up=13 years). First primary tumor distribution in AYA survivors was similar: breast cancers and lymphomas followed by melanomas and testicular germ cell tumors were the most common cancers in both countries. However, thyroid cancer was more common in Italy compared to Spain. In both countries AYA survivors had 60% excess risk of developing any SMNs (SIR=1.6); the highest risk was observed for survivors of digestive tract tumors (SIR=2.1 Italy, SIR=2.2 Spain) and Head&Neck tumors (SIR=2.6 Italy, SIR=3.3 Spain). The only differences between Spain and Italy were observed for lymphomas (SIR=2.5 Italy vs SIR=1.7 Spain). This difference is partially explained by the number of subsequent thyroid cancers which was high in Italy. Further analyses are ongoing.

Conclusions:

We showed that AYA cancer survivors are at heightened risk of SMNs, regardless of their primary tumor. The excess risk is similar in Italy and Spain most likely because they share similar risk factors. However, observed differences may be in part attributable to thyroid cancer overdiagnosis. AYA cancers are rare, collaborative studies are important to strengthen the growing body of evidence on their long-term health risks.

P_7

Seasonal variations in childhood leukaemia incidence in France, 1990-2014

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Biography:

Sophie Bamouni made medical studies in Burkina Faso 2007-2015. After Master in Epidemiology obtained in 2018 at University of Bordeaux, she continued with a PhD study in Epidemiology in EPICEA team since December, 2018. Her Phd theme is "Proximity to agricultural activities and childhood leukaemia incidence in France".

Background:

Several studies have addressed the potential seasonality of childhood acute leukaemia (AL). Results were inconclusive and most of them were based on small numbers of cases. The availability of large data on such rare disease as AL from 25 years of registration by the National Registry of Childhood Cancers in France, enabled us to describe in detail the seasonal variations in childhood AL. We investigated seasonality in AL taken together, and lymphoblastic (ALL) and myeloid (AML) leukaemia separately, by month of birth or diagnosis.

Methods:

The study included 11,528 cases of primary AL aged less than 15 years registered in the RNCE over the period 1990-2014 (9,493 ALL and 1,843 AML). For the seasonality analyses by month of birth, we excluded the cases born before 1990 or born abroad (8,798 remaining AL). We used birth and population census data provided by the National Institute of Statistics and Economic Studies to estimate the population at risk. Assuming constant variations over 1990-2014, we used a Poisson regression model to evaluate variations in standardized incidence ratios (SIRs) by month of birth or diagnosis. Using a scan method for temporal cluster detection, we also looked for windows of several consecutive months with high or low SIR. The yearly reproducibility of the observed variations was evaluated.

Results:

No seasonal variation was detected for AL taken together or for ALL. We observed differences in AML incidence rates between January-April and May-December birth periods (SIR=0.85 95% CI 0.77-0.94 and SIR=1.07 95% CI 1.01-1.14, respectively). These differences were reproducible according years over the study period (p-value of interaction test = 0.72). We also observed variations by month of diagnosis in AML incidence with a SIR lower than 1 in August-December (SIR=0.91 95% CI 0.85-0.98) and, symmetrically, a SIR higher than 1 in January-July (SIR=1.06 95% CI 1.00-1.13), but the seasonality was less clear-cut (p-value of interaction test = 0.07).

Conclusion:

Based on a large number of cases from a high-quality registry, we did not evidence any seasonality in ALL incidence rates but evidenced seasonal variations in AML incidence rates by month of birth.

Keywords:

childhood leukaemia, seasonality.

P_8

Incidence of hematopoietic and lymphoid tissue neoplasms in children and adolescents (2015-2017): results of the Population-based Cancer Registry of the Community of Madrid

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Biography:

Raquel López is a nurse Master's Degree in Research and Nursing Care for Vulnerable Population by the Autonomous University of Madrid. She has worked in different hospital services and collaborated with diferent research projects and is currently working in the Population-based Cancer Registry of the Community of Madrid.

Abstract:

Hematopoietic and lymphoid neoplasms (leukemia and other myeloproliferative and myelodysplastic syndromes, and lymphomas and reticuloendothelial neoplasms), constitute two of the three most frequent tumor groups in children and adolescents in the world. This study aims to provide comparable data at a national and international level on the incidence and characteristics of hematopoietic and lymphoid neoplasms in children and adolescents (0-19 years old), in the Community of Madrid (CM), Spain.

The CM Population-based Cancer Registry contains data on all malignant neoplasms of groups I and II of the International Classification of Childhood Cancer, in patients under 20 years of age living in the CM diagnosed between 2015-2017. The cases were detected through an automated procedure, using four clinical and one administrative sources of information. Clinical history of possible incident cases was reviewed individually and cases were classified according to the ENCR/IARC recommendations. Age-specific incidence rates (ASR) were calculated for five-year age groups by sex and type of cancer and, for the population aged 0-14 years, rates were adjusted by age-standard world population (WSR) per million person-years. Incidence rates were compared with those of 11 Spanish population registries.

A total of 279 incident cases from 0 to 19 years were identified in 3,935,150 person-years (161 males and 118 females). For 0-14 years, the WSR of leukemia was $47.1/10^6$ in boys and $40.3/10^6$ in girls, and that of lymphomas was $35.8/10^6$ and $19.6/10^6$, respectively. Between 15-19 years, the ASR of leukemia was $26.4/10^6$ in men and $13.8/10^6$ in women, and that of lymphomas was $46.2/10^6$ and $59.9/10^6$, respectively. For 0-14 years, the most common morphology was precursor cell leukemia (ICCC: Ia1) with a WSR of $29.3/10^6$ and, for 15-19 years, it was Hodgkin's lymphoma (ICCC: IIa) with a WSR of $40.5/10^6$. Estimated rates for Madrid were lower compared to the estimates for Spain in 0-14 years for leukemia ($43.8/10^6$ vs. $50.3/10^6$) and higher for lymphomas ($27.9/10^6$ vs. $20.6/10^6$). For 15-19 years, incidence was lower in both diagnostic groups, leukemia ($20.3/10^6$ vs. $27.1/10^6$) and lymphomas ($52.9/10^6$ vs. $59.8/10^6$).

The CM childhood Population-based Cancer Registry will be used to inform public health policies.

P_9

Predicting cardiovascular diseases in adolescent and young breast cancer patients (ROSANNA)

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[1]Fondazione Irccs Istituto Nazionale Dei Tumori Di Milano, Milano, Italy

Biography:

MD, PhD. Long lasting experience with population based cancer registry data. Member of the SC of EUROCARE, coordinator of the projects on rare cancers RARECARE and RARECAREnet. Cordinator of the first italian population-based cohort of adolescent and young adult cancer survivors.

Background:

Breast cancer (BC) is the most common cancer among adolescents and young adults (AYA), the survival is high and it is improving making most AYA BC long-term survivors. Cardio vascular diseases (CVD) are among the most debilitating late effects and the leading cause of treatment-related non-neoplastic death among cancer survivors. CVD are well characterized in survivors of childhood cancer but not in AYA cancer survivors.

Hypothesis:

The traditional approach has been a monitoring of the cardiovascular system for an early detection of CVD. Our hypothesis is that predictive modelling can support a personalised follow-up in AYA cancer survivors.

Aims:

To identify, predict and explain individual susceptibility to cardiotoxicity at the end of cancer treatments in AYA with B.

Methods:

We will use Bayesian networks (BN) and temporal Bayesian networks (TBNs) to predict treatment-related CVD in AYA with BC and to assess causal relationships between treatment, covariates and outcomes mixing clinical and biomarker information coming from the population-based AYA cancer survivors cohort. In brief, this cohort is based on population-based cancer registries (CRs) which, through large-scale record linkage techniques, with administrative database including hospital discharge records (HDR), death registries and pharmaceutical database (DB), provide complete follow-up information on post-treatment comorbidities including CVD events, secondary tumors and mortality. These DBs provide information also on individual cardiovascular risk factors (e.g. diabetes, hypertension, dyslipidemia) and treatment although the treatment details are scarce.

Impact:

The project results will contribute to personalised survivors' follow-up strategies for AYA with BC.

P_10

Occurrence of second primary malignant tumours following childhood cancer in GRELL and other European countries: an exploratory study

Dr. Carmen Martos[1], Dr. Francesco Giusti[1], Dr. Luciana Neamtiu[1], Dr. Giorgia Randi[1], Dr. Manuela Flego[1], Dr. Raquel Carvalho[1], Tadeusz Dyba[1], Dr. Nadya Dimitrova[1], MSc Manola Bettio[1]

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Biography:

I am epidemiologist. I have been working for seven years in the Cancer Information Group at the European Commission's Joint Research Centre in Ispra (Italy). My main responsibilities are: 1-cancer data harmonization and quality of the European Cancer registries contributing to the European Cancer Information System; 2-Data analysis.

Background:

Advances in pediatric oncology have increased long-term survival after childhood cancer. Several studies have shown that childhood cancer survivors experience higher morbidity rates, including second primary malignant tumours (SPMTs), compared with the general population. This study aims to explore the occurrence of SPMTs among childhood cancer survivors residing in GRELL and other European countries.

Methods:

Population-based cancer registries (CRs) participating in the European Cancer Information System (ECIS), reporting follow-up information and contributing with an incidence period of at least 10 years were considered (50 CRs in GRELL and 32 in other European countries). From these CRs, childhood tumours (age 0-19) classified according to the International Classification of Childhood Cancers-3rd edition, and SPMTs were extracted. The study focused on the first SPMT among at least 1-year childhood cancer survivors. SPMT was defined according to the 2004 international rules for multiple primary cancers. Standardized Incidence Ratios (SIRs) with the corresponding 95% confidence intervals (CI) were computed.

Results:

A total of 175,120 children with cancer were analysed (28,486 in GRELL and 146,634 in other European countries). Among these, 295 (1%) and 1937 (1.3%) patients in GRELL and other CRs respectively were reported having a SPMT. This proportion was highest (2%) among children with retinoblastoma (index tumour), in both GRELL and other European countries. Central nervous system and thyroid tumours are the most frequent SPMT among solid tumours. Haematological malignancies accounted for 20% of the SPMT. SIR for all cancers except skin non-melanoma (SIR=1.4, 95% CI: 1.2-1.5) was lower in GRELL than in other European regions (SIR=2.1, 95% CI: 2.0-2.2). It was not possible to analyse the association between SPMT occurrence and the treatment variables due to the underreporting of treatment information (90% and 60% of missing values in GRELL and other countries respectively).

Conclusions:

Differences in SPMT occurrence were found between GRELL and other European countries. CRs collecting all cancer types for all ages are an essential information source for identifying SPMTs among childhood cancer survivors. Nevertheless, improved data capture is necessary for certain clinical information, especially regarding treatment variables, before the impact of treatment on SPMTs can be understood.

P_11

Childhood cancer survival in the GRELL countries, the EUROCARE 6 results

EUROCARE 6 WG, Dr. Laura Botta[1], Gemma Gatta[1], Riccardo Capocaccia[2], Silvia Rossi[3]

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Biography:

I'm a biostatistic involved in many EU-projects related to rare cancers and cancers epidemiology involving CR. I everyday more become more experienced in analysing indicators for cancer survivors such as prevalence, time to cure, cure fraction, excess mortality risk and life expectancy although there is still a lot to learn.

Objectives:

The EUROCARE-6 study still showed childhood cancer survival disparities between European countries. In this EUROCARE round we benefit of an increasing coverage of the Eastern countries. The objective of this study is to analyse survival for the major childhood cancers by country in European countries and specifically in the GRELL regions, to discuss possible reasons of disparities and make suggestions for further collaborative studies (such as BENCHISTA study). The results of EUROCARE 5 identified two events (Sofia, 2015 and Valencia,2016) for discussing the discrepancies with the National Societies of Paediatric Oncologists to understand and improve the outcome.

Methods:

We analyzed about 133,000 cancers, 47,000 from the GRELL countries, defined by ICCC 3rd edition, 2000-2013 diagnosed and followed-up at the end of 2014. 80 population-based cancer registries (CR) in 31 countries provided data. The observed 5-year survival was calculated by the period method. We also analyzed long term survival and survival trends over time using 62 and 49 CRs respectively.

Results:

In Europe 5-year survival for all childhood cancer (2010-2014) is 81% and, during the time study period, increased by 5% points. The progress was significant, for the major CC.

For all cancers combined Eastern countries' survival is still lacking behind other regions except for UK and Ireland. Long term survival was also studied for Europe overall and a plateau was found for some cancers. In the studied countries of the GRELL, for all cancer combined 5-year survival largely ranged between 84% and 78% in the period 2010-2014. Five-year survival for ALL is about 90% in all the 6 countries, for CNS largely ranged from 64% to 53% and for Neuroblastoma from 79% to 69%. Long- term survival showed a plateau for ALL, AML, neuroblastoma and some sarcomas.

Conclusions:

Survival is increasing over time but still some difference has been found in the European and the GRELL countries. Important steps and position in Europe (SIOPE and European Union) have been taken to increase the children's survival. Therefore monitoring this indicator through population based registry data is very important for evaluating the effect of the programs.

P_12

Incidence of thyroid cancer in children and adolescents in Campania: a population-based study

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Biography:

Camilla Calì is a PhD in Mathematics and Computer Science. She currently work as Biostatician at Childhood Cancer Registry of Campania - Santobono Pausilipon Hospital in Napoli.

Abstract:

Pediatric thyroid cancer (TC) incidence rates have increased over time in worldwide and constitute a major and increasing proportion of epithelial neoplasms in children and adolescents. The purpose of this study was to determine the pattern and trend in incidence of TC in children and adolescents resident in Campania, South Italy, compared with those observed in the corresponding world population.

This population-based study included the incidence cases of TC registered by Childhood Cancer Registry of Campania in the period 2008-2017 (mean annual population 1'250'000). We analyzed the age-standardised incidence rates (ASR), as the weighted average of age-specific rates in the age groups 0–4,5–9,10–14 and 15–19 years using the world standard population. We evaluated temporal trends and absolute change in age-standardised incidence rates as the difference between the ASRs for the periods 2008–12 and 2013-17.

We registered a total of 278 (73% girls; 93% papillary carcinoma) TC among children and adolescents aged 0–19 years with an ASR of 18,2 cases per million and ASR sex ratio 2,8. ASRs increased with age in both sexes and ranged from 0,5 (in 0-9 age group) to 40 cases per million (in 10-19 age group). For the period 2008-2012 we compared our results with the global incidence rate of TC cancer in children and adolescents (https://doi.org/10.1016/S2213-8587(20)30401-0). Although our ASRs were the highest among those observed in the countries analyzed, they remained constant over time (18,2 in 2008-12; 18,3 in 2013-17).

The high incidence of TC in children and adolescents in Campania, as the large geographical heterogeneity in ASRs reported in the world, could be mainly explained by differences in the rates of detection of papillary carcinoma, the type of TC that can be found in a subclinical form. Therefore, further analyses taking also in account the size of the tumors are needed to evaluate a possible role of the TC overdiagnosis in the incidence of TC in children and adolescents. Also a focus on the strength of the correlation between incidence rates in children and adolescents and in adults, can be a starting point for a collaboration between pediatrcians, endocrinologists and public health authorities.

P_13

The International Benchmarking of Childhood Cancer Survival by Stage in the GRELL countries (BENCHISTA international project)

Gemma Gatta[1], Laura Botta[1], Riccardo Capocaccia[2], Kathy Pritchard-Jones[3], Benchista working group[4]

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Biography:

Researcher at the evaluative epidemiology unit.

Background:

The BENCHISTA collaborative study collects data from population-based cancer registries (CRs) across Europe to compare tumour stage and survival and where available data on relapse and treatments in six cancers among children. We aim to understand why there are differences in chances of survival from childhood cancer (CC) between some countries. We will compare how far cancer has spread at diagnosis and test if differences in tumour stage explains any survival differences between countries. We will focus the description on the GRELL countries.

Methods:

Participating CRs (all GRELL countries are represented by one or more CRs) will assign tumour stage at diagnosis for 6 CCs, using the “Toronto” staging guidelines (TG).CR dataset will be centralised as the data analysis in Milan. First comparative analysis of distribution of tumour stage at a population level and analysis of CC survival by stage, with comparisons between sufficiently large population groups (country-level or European region) for analysis variation will be provided. Practical recommendations on strengthening joint working between CRs and clinical treatment centres/clinical registries so that staging of newly diagnosed CC patients becomes more efficient and complete will be prepared. We expect the CRs to provide information on tumour stage and survival for a total of approximately 8,000 children with cancers across Europe and followed up for at least 3 years.

Results:

The pilot study conducted on a sample of neuroblastoma (NB) and nephroblastoma (Wilms) showed differences in the stage distribution across the GRELL countries. For NB, which is characterised by high proportion of distant metastases at diagnosis, the proportions ranged between 50% (Portugal and Switzerland) and 22% (Italy). Children with Wilms, mainly presented at localised stage (Stage I/II), showed figures ranged between 70% (Portugal) and 45% (France). The highest number of cases required (2013-17 diagnoses) will permit more solid comparisons. Standardization of procedure for reconstructing stage according to the TG, will be supported in each country.

Discussion:

To understand the reasons of CC survival differences will benefit future children to be diagnosed more quickly and help health service planners and clinical teams improve the care they provide and chances of successful treatment.

P_14

Descriptive epidemiology of childhood cancer in Cali, Colombia 2000-2020

Elvia Grillo[1,2,4], **Luis Eduardo Bravo Ocaña**[2,3,4], **Oscar Ramírez Wurttemberger**[2,4], **Stella García Ortíz**, **Paola Collazos Rodriguez**

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Biography:

Pediatric dentist, third-year health PhD in health of Valle University. Member of the academic working group the POHEMA foundation and of the child epidemiological surveillance system VIGICANCER.

Abstract:

Childhood cancer mortality in Colombia has decreased around 57% in the last four decades but remains as the second cause of death on children and adolescents from 2 to 19 years, and the third cause in the group among 1 to 14 years. The aim of this study was to describe occurrence and survival patterns for childhood cancer during the last 20 years in Cali, Colombia. Methods: Information was obtained from the Cancer Population Registry of Cali (RPCC) and VIGICANCER surveillance system. Municipal Department of Health provided vital status from death mortality databases. International Childhood Cancer Classification version 3 (ICCC-3) was used. Incident (IR) and mortality (MR) rates were estimate and adjusted for age. Results: 1.628 cases < 15 years old were identified between 2000-2019. The IR and MR for Cali in the first and second decade were 155.6 and 59.1 per million of people per year on the first decade and 149.8 and 41.8 per million of people per year, respectively. Leukemias, lymphomas-reticuloendothelial neoplasms and CNS tumors showed IR of 62.5, 21.8 and 21.5 per million of people per year and 58.4, 16.2 and 23.1 per million of people per year, for the first and second decade, respectively. MR for leukemias, lymphomas-reticuloendothelial neoplasms and CNS tumors were 26.4, 2.8, 11.1 per million of people per year, for the first decade and 13.2, 1.0 and 14.8 per million of people per year, for the second decade, respectively. Conclusion: The IR and MR decreased for leukemias and lymphomas-reticuloendothelial neoplasms between the first and second decade of observation. CNS tumors increased IR and MR between the same decades of observation, becoming the second cause of incident cases and the first cause of death in childhood cancer in Cali, Colombia. Childhood cancer is uncommon in Colombia, but even represents a rising health public problem with high burden on social, economic, psychology and affective aspects on the Population and Colombian health system.

Key words:

Childhood cancer, incidence, mortality, epidemiology.

P_15

Neoadjuvant chemoradiotherapy as an improved prognostic over rectal cancer patients. A decade study and its characterization

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Biography:

Sara was born in 1989 at Funchal and had a happy childhood. She graduated with a degree in Nutrition Sciences major in 2012. Then, completed the Master's degree and it's currently pursuing a Doctorate's degree in Clinical Nutrition. She has been working at the Oncological Registry since 2018.

Objectives:

Rectal cancer (RC) is the 5th most 5-year prevalent cancer, affecting more than 2 million people worldwide. Its incidence and mortality are expected to increase, for at least 50%, over the next 2 decades especially in the most developed countries. The multimodal strategy for locally advanced RC with neoadjuvant chemoradiotherapy (nCRT) resulted in a decrease of local recurrence after surgical resection and increased overall survival. Preoperative radiotherapy also demonstrated better radiation sensitivity and toxicity profile. The combination of chemotherapy with fluoropyrimidine increased the rate of tumor response and local control, without advantage in overall survival. This study was designed to investigate the impact of nCRT on the outcomes of RC patients from the Autonomous Region of Madeira (RAM), Portugal.

Methods:

Data were collected from patients with RC diagnosis (ICD-O-3:C20.9) between 2000 and 2019, registered in the Registo Oncológico da RAM (RORAM) platform. Survival curves were calculated using the Kaplan-Meier estimates.

Results:

A total of 801 (56.6% males) RC cases, with a median age of 67 years, were registered on RORAM. RC average annual incidence rate (/100,000 population) increased 28.9%, from 13.9 (2000-2009; PI) to 17.9 (2010-2019; PII). Regarding morphology, adenocarcinoma (M8140/3) accounted 87.8% of cases. Clinical stage group II and III were the most frequent with 459 cases and stage group III was the most frequent performing nCRT (74.7%) with an increase from 59.6% (PI) to 79.8% (PII). When performing nCRT, it was observed an overall increase on the survival rate: 59.7% to 74.0% for stage group II and 40.0% to 67.7% for stage group III for the 5-year time of survival ($p<0.01$). PII has shown a significant ($p=0.015$) increase in the survival rate compared to PI in the homologous times of survival.

Conclusions:

The results from this study suggest that nCRT has an important prognostic role over locally advanced RC. As expected and described in literature, survival rates have increased significantly over the years in the identified RC cases that performed multimodal strategy in the preoperative setting.

P_16

Clinical epidemiology of microinvasive cervical carcinoma in an Italian population (1995-2016)

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Biography:

I graduated in Statistics with a post degree Master in Health Research. After the degree, I had an internship at the National Cancer Registry of Ireland. I have been working at the Romagna Cancer Registry (Italy) since 2009. My main research interests are population-based epidemiological studies and cancer screening.

Objectives:

This population-based study aimed at evaluating the factors associated with the likelihood of detection of stage Ia versus stage Ib-IV cervical carcinoma and –with respect to the former– the patterns of surgical treatment. Secondary endpoints included the prevalence of positive lymph nodes among patients with stage Ia cervical carcinoma undergoing lymph node dissection, and the overall survival.

Methods:

Between 1995 and 2016, 3750 patients living in the Emilia-Romagna Region (northern Italy) were registered with cervical carcinoma, including 2942 patients (median age, 53 years; range, 19-93 years) eligible for the study. Multivariate analysis was performed using backward stepwise binary logistic regression models. Overall survival was estimated using the Kaplan–Meier method and was compared between patients using the log-rank test.

Results:

The likelihood of detection of stage Ia disease (n=876 or 29.8%) did not change over time, decreased with increasing patient age and was lower for patients with adenocarcinoma (odds ratio, 0.53; 95% confidence interval (CI), 0.41-0.70) and grade 2 (odds ratio, 0.27; 95% CI, 0.18-0.40) and grade 3-4 disease (odds ratio, 0.14; 95% CI, 0.09-0.21). Three hundred and fifty (40.0%) patients had a conservative treatment, 317 (36.2%) a simple hysterectomy, 197 (22.5%) a hysterectomy with lymph node dissection, and 12 (1.4%) a conservative treatment with lymph node dissection. The proportion of hysterectomy (with or without lymph node dissection) decreased from 70.6% in 1995-1999 to 40.6 in 2011-2016. The significance of this time trend was confirmed by multivariate analysis (odds ratio in 2011-2016, 0.29; 95% CI, 0.18-0.48). The odds ratio for hysterectomy increased above the age of 40, and was greater in one health care district. Among screening-aged (25-64 years) patients, the odds ratio for hysterectomy did not differ significantly between screen-detected and non-screen-detected ones. Among patients undergoing hysterectomy, LND was more and more often performed. High tumour grade was the strongest determinant of lymph node dissection during hysterectomy. Among the total 209 patients undergoing lymph node dissection, five (2.4%) had positive lymph nodes.

Conclusions:

This study provided a multifaceted overview of prevalence, determinants, treatment, and outcome of stage Ia cervical carcinoma in a defined population over the last decades.

P_17

Prognostic factor and overall survival in women with breast cancer by molecular subtype: a hospital registry-based retrospective cohort of São Paulo, Brazil

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Biography:

I am a public health researcher who has been working on Epidemiology and Biostatistics since 2004. I have experience in researches with people living with HIV/Aids, cancer, nutritional status and speech therapy. Over the past few years, my experience has been focused on statistical analyses, cancer epidemiology and record linkage.

Background:

A new understanding of breast cancer considers the prognosis dependent on both demographic and clinical characteristics and molecular subtypes. However, studies that analyze biomarkers as prognostic factors are scarce due to the high cost of the exam in low-income populations.

Objective:

This study aims to analyze overall survival (OS) and the prognostic of women treated at the public health system with breast cancer according to the molecular subtypes, sociodemographic, clinical, and treatment characteristics from the Sao Paulo's Hospital Based Cancer Registry, Brazil.

Methods:

This is a Hospital-based retrospective cohort. Were analyzed 1,654 women, above 18 years old with a diagnosis of invasive breast cancer from 2000 to 2018. Data were extracted from the Oncocenter Foundation of São Paulo (FOSP). The accounted variables were age, histology and clinical staging (CS) at diagnosis, treatment type, molecular subtypes (Luminal A, Luminal B Her2-, Luminal B Her2+, Her2+ non-luminal e triple-negative). Were eligible for the calculation of the OS rate in 5 years patients who were diagnosed by December 31, 2013 (n=899). Survival time was calculated between the date of vital status (death or alive) and the date of diagnosis. For the 5-year survival rate analysis, it was applied the Kaplan-Meier test and Cox regression to estimate death risk.

Results:

As for the triple-negative, the worst 5-year OS rate was seen in women <40 years old (38.3%) and those ≥ 70 years old (45%). There was an increase in the risk of death according to the clinical-pathological composition. Women presented with molecular subtype Luminal B tumors (Her-2 +) had death risk of HRadj=2.30 (CI95% 1.27 – 4.17), Her-2 + (non-luminal) of HRadj=2,39 (CI95% 1.42 – 4.02) and triple-negative HRadj=2,65 (CI95% 1,72 – 4,08).

Conclusion:

The worst OS rate in 5 years was associated with the molecular subtypes Her2 + (non-luminal) and triple-negative. The prognosis associated with the molecular subtype was an independent risk factor for death, mainly in Her-2 + (non-luminal) and triple-negative tumors.

P_18

Trends in endocrine therapy prescription and survival in patients with non-metastatic hormone receptor positive breast cancer treated with endocrine therapy: a population based-study

Ms. Ariane Mamguem Kamga[1], Mr. Oumar Billa[1], Mr. Sylvain Ladoire[2], Ms. Marie-Laure POILLOT[1], Ms. Genevieve Jolimoy[3], Mr. Patrick Roignot[4], Mr. Charles Coutant[5,6], Ms. Isabelle Desmoulins[2], Mr. Marc Maynadie[6,7,8], Ms. Sandrine Dabakuyo-Yonli[1,9]

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Biography:

I am an epidemiologist in Georges François Leclerc Centre. My research themes are post cancer issues and quality of life. Particularly, the interest of quality of life and its routine assessment in patient's care.

Background:

Many randomized clinical trials have demonstrated the efficacy of endocrine therapy (ET) in reducing recurrence, but few, if any data exist on the efficacy of ET in daily routine practice and the trends in prescription of ET over time. To assess the real-life efficacy of drugs, population-based cancer registries and medical databases are important tools. The purpose of this study was to identify prognostic factors of invasive–disease free survival (iDFS) in women with non-metastatic hormone receptor positive (HR+) breast cancer (BC) in real life.

Methods:

We performed a population-based study using data from the Côte d'Or Breast and Gynecological cancer registry in France. All women with primary invasive non-metastatic HR+ BC diagnosed from 1998 to 2015 and treated by ET were included. Patients who received ET for either metastasis or relapse were not included. iDFS was estimated using the direct adjusted survival method. Cox proportional hazards regression was used to identify the prognostic factors of iDFS. Multivariable logistic regression was performed to identify factors associated with the choice of ET.

Results:

A total of 3976 women treated by ET for HR+ non-metastatic BC were included. Age, ET class, SBR grade, stage, treatment, and comorbidities were independently associated with iDFS. Women who had neither surgery nor radiotherapy had the highest risk of recurrence (HR=3.75, 95%CI [2.65 – 5.32], p<.0001). Treatment with Aromatase inhibitors (AI) was associated with a reduced risk of recurrence (HR=0.70, 95%CI [0.54 – 0.90], p=0.0055). Comorbidities was found to be significant predictors of the choice of ET. Compared to women with a Charlson Comorbidity Index (CCI) equal to 0, women with a CCI of 1 or 2 were more likely to receive AI (OR=1.63, 95%CI [1.22 – 2.17], p=0.0009). Also, women with lobular cancer (OR=1.36, 95%CI [1.04 – 1.77], p=0.02) were more likely to receive AI compared to those with ductal cancer.

Conclusions:

Comorbidities, age at diagnosis and previous treatment were associated with iDFS in non-metastatic HR+ BC patients. This study also showed that women who received tamoxifen for their cancer experienced worse iDFS compared to women treated with AI.

P_19

Comparison of time to treatment in breast cancer between screened versus non-screened women in Tarragona, Catalonia, Spain

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Biography:

Marià Carulla is Doctor of Medicine at the Tarragona Cancer Registry of Tarragona since 2010, coordinating register's staff and directing principal research lines and assessing the quality control of results. He is specialized in Family Medicine with a Master in Public health with previous experience in cancer registration.

Objectives:

A longer time from diagnosis to treatment is associated with a decreased survival in women with breast cancer. There is some limited evidence that women diagnosed through Breast Cancer Screening Programme (BCSP) have shorter wait times to treatment compared to women diagnosed through the usual medical care (UMC). Our aim was to assess the clinical characteristics and time to treatment between screened and non-screened women diagnosed in the province of Tarragona, Catalonia, Spain.

Methods:

Incidence data for breast cancer, in women, 50-69 years old at diagnosis, in the period 2012-2015, were obtained from Tarragona Cancer Registry. Variables were: Mode of detection (BCSP and UMC), histology, behaviour, grade of tumour, stage at diagnosis, molecular subtype, date of diagnosis, date of first treatment and type of first treatment (surgery, chemotherapy, radiotherapy, hormonal treatment and targeted treatment). Time to treatment in days were calculated. Comparisons of time to treatment between BCSP and UMC patients were performed by t Student statistic and adjusted by stage. R software was used.

Results:

1094 women aged 50-69 years, with breast cancer diagnosed during the study period were included. Mean age 58.9±5.9 years old. 59.1% diagnosed by BCSP, 89.7% in situ, 77.2% ductal histology, 31.3% poorly differentiated, 75.4% stages I-II, 58.6% Luminal A subtype, 76.2% with surgery as first treatment. Mean time to first treatment: 46.4±59.6 days. Comparing clinical characteristics between BCSP vs UMC patients, BCSP tumours had lower proportion of invasive behaviour (86.3 vs 92.0%, $p=0.003$), higher proportion of stages I-II (76.7 vs 74.2%, $p<0.001$) and lower proportion of Triple-Negative subtype (4.3 vs 9.1%, $p<0.001$). No differences were observed in time to first treatment between BCSP vs UMC patients: 49.4±78.3 vs 44.1±39.5 days, $p=0.206$. Likewise, no differences were observed in time to treatment by BCSP and UMC neither adjusting by mode of first treatment nor stage.

Conclusions:

In Tarragona province, we did not observe differences in time to treatment in women aged 50-69 years between BCSP and UMC patients, indicating that there are no differences in breast cancer care pathway by mode of detection in women of this age group.

P_20

To what extent do age, stage and treatment influence survival after invasive cervical cancer: a French population-based study

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Biography:

Directrice Scientifique du Registre des tumeurs du Doubs
2016 : Diplôme Universitaire de Cancérologie
1996 : Diplôme d'Études Approfondies (DEA) Epidémiologie
1995 : Maîtrise de Sciences Biologiques et Médicales
1994 : Diplôme d'État de Docteur en Médecine.

Objective:

To describe the effects of main prognostic factors on net survival in cervical cancer (CC) according to age.

Methods:

1,153 incident cases of primary invasive CC were diagnosed in 2011-2012 in 19 French cancer registries. Net survival was estimated with the Pohar-Perme method and prognostic factors (socio-demographic, clinical variables, stage at diagnosis, therapeutic management) were analyzed with Lambert and Royston's flexible parametric model.

Results:

Older women were diagnosed at a more advanced stage than younger women: 54.8% regional (FIGO IB2-IVA) and 33.0% distant (IVB) in women ≥65 years vs. 33.7% and 8.0%, respectively in women <45 years. Half of women with regional stage CC received recommended treatment; this rate decreased with increasing age. Older age was significantly associated with increased risk of death (hazard ratio 1.89 for age ≥65), as were regional stage (2.81), distant stage (15.99), and not receiving recommended treatment (2.26).

Conclusions:

Older women, diagnosed at advanced stage who do not receive standard of care are at markedly increased risk of death. Special attention to the management of older women is warranted in France to diagnose CC at an earlier stage and to ensure they receive recommended therapy as often as possible.

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Mammography screening and mastectomy for early breast cancer: a population-based 25-year trend study from northern Italy

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Biography:

I graduated in Statistics with a post degree Master in Biostatistics. I have been working at the Romagna Cancer Registry (Italy) since 2001. My main research interests are population-based epidemiological studies and cancer screening.

Objectives:

The impact of screening programmes on breast surgery in Europe has been insufficiently evaluated. We report the trend in the incidence of mastectomy for early breast cancer (BC) in the target population of a regional mammography screening programme.

Methods:

Data for 32,290 stage I-II BC patients aged 40-69 years (1992-2016) were obtained from the Emilia-Romagna BC registry (northern Italy). The local screening programme (target age, 50-69 years) was implemented between 1996 and 1999. The years 2000-2016 were compared with the years 1992-1995 for stage I-II BC incidence rates, proportion of mastectomy, and mastectomy incidence rate for stage I-II BC. Women aged 40-49 years were treated as a control group. Age-standardised incidence ratio (SIR), with 95% confidence interval (CI), was the main outcome measure.

Results:

Among women aged 50-69 years, stage I-II BC incidence increased by over 50% (SIR, 1.55; 95% CI, 1.47-1.62). Conversely, the proportion of mastectomy dropped from 42.8% to 19.9% (proportion ratio, 0.46; 95% CI, 0.44-0.49). As a result, the incidence of mastectomy for stage I-II BC decreased by 27% (SIR, 0.73; 95% CI, 0.67-0.79). Younger women experienced changes in the same direction but smaller (mastectomy SIR, 0.90; 95% CI, 0.79-1.03). Their trend in the proportion of mastectomy was similar to that of non-screen-detected patients aged 50-69 years.

Conclusions:

As breast units, which are effective in controlling the use of mastectomy, had not yet been formally created during the study period, the observed differences in age-related surgical trends suggest that screening units practiced more advanced multidisciplinary breast care models compared with the ordinary health system.

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The impact of COVID-19 on the accessibility of cancer patients to Hospital de Braga

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Biography:

1990 - Degree in Medicine at the Faculty of Medicine of Coimbra, University of Coimbra
2016 - Hospital Assistant Graduated in Internal Medicine at the Medical Oncology Service of Hospital de Braga
Works since 1998 at the Oncology Service
Responsible for the Oncological Registry of the Braga hospital since 2018.

Objectives:

The COVID-19 pandemic led to new epidemiological control measures, implying limitations in patient's access to health care services, namely in cancer screening area. This study has the main objective of evaluate the impact that a COVID-19 pandemic had on the accessibility of cancer patients to a central hospital in the northern region of Portugal (Hospital de Braga - HB).

Materials and Methods:

This is a retrospective study, which included HB patients registered on the National Oncological Registry platform (RON), which had a first hospital´s observation in 2019 and 2020. The number of new cases, referral pathway, topography, stage at presentation and waiting times in each node of the clinical pathway (diagnosis, staging and initial treatment) were analyzed, comparing these variables in both cohorts (2019 and 2020).

Results:

In 2020, compared to 2019, there was a significant decrease on the number of new registred cases (-25%), with an increase in cases referenced through urgency in contrast to a decrease in referral from General Practitioner (GP) (+5 p.p. and -6 p.p. respectively). There is also an increase in the number of patients at higher stages (+5 p.p). In terms of the clinical course from first consultation on HB to the start of treatment, the re were a decrease in waiting times compared to 2019.

By topography, we found a significant decrease in the registry of new cases of the main digestive and urological tumors. In terms of referral pathway, we observed more evident changes in tumors of the gynecological tract, brain, thyroid and lung.

Conclusions:

From this study, we can conclude that the COVID-19 pandemic had a high impact on the accessibility of cancer patients to HB, changing the flow of observed patients, by means of number of patients referred and the way they arrived to the hospital. There was a clear decrease of GP referral patients, arrived more by emergency department and with significant higher stages at presentation.

Regarding the clinical pathway until receive the first treatment there was a general improvement of the waiting times due to a better availability of the hospital services to give priority to cancer patients.

P_23

Mortality from respiratory infections and chronic non-communicable diseases before the COVID-19 pandemic in Cali, Colombia

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[1]Universidad del Valle - Registro Poblacional De Cáncer De Cali, Cali, Colombia, [2]Secretaria de Salud Pública Municipal de Cali, Cali, Colombia

Biography:

As a Systems Engineer I have a comprehensive training, capacity for analysis,administration, design and implementationof information systems. With experience in the development of databases and information management, management of massive data and creating user-friendly graphical interfaces and support the systems area which will facilitate the processes and activities the workspace.

Objective:

To measure the impact of the COVID-19 pandemic on mortality from all causes in the municipality of Santiago of Cali, during the first 53 weeks of 2020, using historical information for the period 2015-2019 as a contrast.

Methods:

The information on the number of deaths from basic causes for the 2015-2019 period was obtained from the general mortality database of the Municipal Health Secretariat of Santiago of Cali. Deaths from respiratory infections and chronic non-communicable diseases associated with fatal outcome during the COVID-19 pandemic (malignant neoplasms, diabetes mellitus, cardiovascular and respiratory diseases) were included in the analysis. Excess deaths are not defined by the number of deaths caused by COVID-19, as other factors can contribute to excess mortality.

Results:

During the March-december period, 14 137 deaths were registered in Cali, 3214 more than expected in a normal situation, which represents an excess of 29,4%. That includes 27,5% of deaths with a confirmed diagnosis of SARS-CoV2 virus infection. In Cali there was a significant reduction in week 13 of 72% in deaths from injuries (intentional and unintentional. Deaths from chronic non-communicable diseases increased consistently from week 21. The excess was determined by a significant increase in the number of deaths from cardiovascular diseases that exceeded the expected number as of week 26; and from diabetes that showed excess mortality above the average in eight weeks. Besides deaths from undefined respiratory causes, (COVID U07.2 and pneumonia) at 4,4 y 4,1% for men and women respectively. The above data reflect the change in the distribution of mortality during the pandemic, in which a mortality behavior focus on COVID-19 and cardiovascular causes is evidenced.

Conclusions:

An excess mortality of 29,4% occurred between March 1th and January 2nd in Cali, (3214 more deaths than expected). 27,5% due to SARS-CoV2. The excess was determined by a significant increase in the number of deaths from cardiovascular diseases.

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Impact on cancer registration and cancer care of the first wave of the COVID-19 pandemic in GRELL and other European countries

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Biography:

Luciana Neamtiu obtained a PhD in Mathematics applied to medicine. She has worked in the area of cancer registries and screening databases in Romania before joining the Joint Research Centre. Now, she works for the European Cancer Information System and the European Commission Initiative on Breast Cancer.

Background:

Reorganisation of the healthcare during the first wave of COVID-19 pandemic impacted cancer screening, diagnosis and care. It has resulted in restricting or limiting patient's access to routine diagnostic and therapeutic services. During the pandemic, screening programmes have been delayed or cancelled, and standards of diagnosis and treatments have been compromised.

Objective:

The paper reports the impact of the first wave of the COVID-19 pandemic on the activities of the cancer registries (CRs), and compares the pandemic impact on cancer screening, diagnosis and care in GRELL and other European countries.

Methods:

A questionnaire was sent to the directors of 108 CRs affiliated to European Network of Cancer Registries in June 2020 to understand the impact of COVID-19 on cancer-healthcare processes (in particular, screening and treatment). It also addressed disruptions in cancer registration, and explored the participation of CRs in COVID-19 information gathering and research.

Results:

Among GRELL countries, one national CR (Belgium) and 17 regional CRs from France (3), Italy (3), Romania (2), Spain (8) and Switzerland (1) responded. Since March 2020, all these regions had been under lockdown. These registries reported that cancer-screening programmes (cervical, breast and colorectal) had been mostly stopped or delayed; also diagnostic visits and treatment had been severely disrupted. A similar situation was reported by 18 out of 19 other CRs.

Staff of 11 GRELL CRs had been allocated to other activities, while for five CRs from other countries the staff had been working from home. Eight GRELL CRs and four from other countries had experienced difficulties in accessing sources and/or receiving notifications.

Four GRELL CRs and 10 from other countries had been involved in research measuring the impact of COVID-19 on cancer care (impact on mortality, serological prevalence of SARS-CoV-2 in cancer patients). One GRELL registry and four CRs from other countries are collecting new specific information regarding cancer patients infected with SARS-CoV-2.

Conclusions:

In addition to cancer screening and care, also cancer registration was severely impacted in the first-wave pandemic with some geographical differences. As a consequence, 2020 cancer burden indicators will need careful analysis for proper temporal and geographical interpretation.

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The role of multimorbidity in short-term mortality of lung cancer patients in Spain: A population-based cohort study

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[1]Inequalities in Cancer Outcomes Network, Department of Non-Communicable Disease Epidemiology, London School of Hygiene and Tropical Medicine, London, UK, [2]Non-Communicable Disease and Cancer Epidemiology Group, Instituto de Investigación Biosanitaria de Granada (ibs.GRANADA), Granada, Spain, [3]Biomedical Network Research Centers of Epidemiology and Public Health (CIBERESP), Madrid, Spain, [4]Andalusian School of Public Health (EASP), Granada Cancer Registry, Granada, Spain, [5]Department of Oncology, HU Virgen de las Nieves, Granada, Spain, [6]Research Group on Statistics, Econometrics and Health (GRECS), University of Girona, Girona, Spain, [7]Department of Medical Oncology, Institut Català d'Oncologia Hospital Universitari de Girona Dr. Josep Trueta, Girona, Spain, [8]Descriptive Epidemiology, Genetics and Cancer Prevention Group, Biomedical Research Institute (IDIBGI), Girona, Spain, [9]Epidemiology Unit and Girona Cancer Registry, Oncology Coordination Plan, Catalan Institute of Oncology, Girona, Spain, [10]Radiation Oncology Department, Catalan Institute of Oncology, Hospital Trueta, Girona, Spain, [11]Department of Public Health and preventive Medicine, University of Granada, Granada, Spain

Biography:

Dr Miguel Angel Luque-Fernandez is a Senior Researcher at the Instituto Biosanitario de Granada and Professor of Epidemiology and Biostatistics at the London School of Hygiene and Tropical Medicine. He is working on socio-demographic and economic determinants of health inequalities on cancer incidence, mortality, and survival.

Aim:

Chronic diseases often occur simultaneously and tend to be associated with adverse health outcomes, but limited research has been undertaken to understand their role in lung cancer mortality. Therefore, this study aims to describe the prevalence and patterns of having one (comorbidity) or ≥2 chronic diseases (multimorbidity) among lung cancer patients in Spain, and to examine the association between comorbidity or multimorbidity and short-term mortality risk at six months after cancer diagnosis.

Methods:

In this population-based cohort study, data were drawn from two Spanish population-based cancer registries, Girona and Granada, and electronic health records. We identified 1,259 adult lung cancer patients, diagnosed from 1st January 2011 to 31st December 2012. We identified the most common patterns of individual comorbidities and their pairwise correlations. We used a flexible parametric modelling approach to assess the overall short-term mortality risk 6 months after cancer diagnosis by levels of comorbidity after adjusting for age, sex, smoking status, province of residence, surgery, cancer stage, histology, and body mass index.

Results:

We found high prevalence of comorbidity in lung cancer patients, especially among the elderly, men, those diagnosed with advanced-stage tumours, smokers, and obese patients. The most frequent comorbidities were chronic obstructive pulmonary disease (36.6%), diabetes (20.7%) and heart failure (16.8%). The strongest pairwise correlation was the combination of heart failure with renal disease ($r=0.20$, $p<0.01$), and heart failure with diabetes ($r=0.16$, $p<0.01$). Patients with either comorbidity or multimorbidity had 40% higher overall mortality risk than those without comorbidities (aHR for comorbidity: 1.4, 95%CI: 1.1–1.7; aHR for multimorbidity: 1.4, 95%CI: 1.1–1.8), when relevant confounding factors were taken into account.

Conclusions:

The presence of comorbid diseases, rather than the number of comorbidities, was associated with increasing the risk of short-term lung cancer mortality in Spain. Comorbidity was a consistent and independent predictor of mortality among lung cancer patients, six months after diagnosis. The most common comorbid conditions were age-, obesity- and tobacco-related diseases. Our findings highlight the need to develop targeted preventive interventions and more personalised clinical guidelines to address the needs of lung cancer patients with one or more comorbidities in Spain.

P_26

Colorectal cancer incidence in increasing among young adults in Uruguay

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Biography:

Medical Oncologist. Technical Assistant in the National Cancer Registry from Uruguay since 2008.

Background:

Uruguay (pop. 3,499,000) is a Latin American country with very high Human Development Index (HDI). The National Cancer Registry of Uruguay (NCRU) is a population based cancer registry that records information at national level since 1991. Colorectal cancer (CRC) incidence and mortality rates rank in the highest quintile globally for both uruguayan men and women. Opportunistic CRC screening for people older than 49 has been implemented since the mid-nineties. Some clinicians expressed their concern about a perceived increase in CRC diagnosed in younger people, and therefore this matter has been periodically followed up by the NCRU.

Objective:

The aim of the study is to assess CRC trends in incidence and mortality rates in Uruguay for specific age groups.

Methodology:

Incidence trends for CRC for the period 2002-2017 and mortality trends for the period 1990-2017 were analyzed employing Join Point Regression Models, for specific age groups (20-39; 40-49; 50-69 and 70+) by sex, using national data from the National Cancer Registry database.

Results:

27561 incident cases were analyzed. Incidence rates slightly increased for men and remained stable for women. Increasing incidence trends were found for the age group 40-49 for both genders and for the older males (70+). Mortality remained stable for the 20-39 and 40-49 groups for males and females, while it has decreased for older women (50-69 and 70+) and increased for the oldest males (70+).

Conclusion:

Increasing trends in CRC incidence in young adults, similar to those described in countries with very high HDI and high prevalence, were found in Uruguay. Gender disparities were found in the elder population. High exposures to dietary and lifestyles risk factors and inequalities in screening program access are probably among the main causes and deserve further investigation. Therefore, a healthier lifestyle promotion, increasing awareness of the medical community to suspect CRC diagnosis in younger patients and the discussion of key aspects in screening policies such as the age of initiation are of utmost relevance.

P_27

Trends in Pancreatic Cancer Mortality in the city of São Paulo and regional health centers from 1996-2017

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Biography:

PhD Student at Program Post-graduation in Epidemiology at University of Sao Paulo (USP, 2019-2023), Master of Health Science (2010-2012), Biologist (2006-2009). I currently Data Manager Supervisor of Hospital Cancer Registry at A.C.Camargo Cancer Center and worked at the Population-Based Cancer Registry of Goiania (2007-2013).

Objectives:

To describe trends in pancreatic cancer mortality in the city of São Paulo by regional health centers in the period 1996-2017.

Methods:

Deaths due to pancreatic cancer (ICD10-C25), over 40 age old, by sex and by the six regional health centers of São Paulo were described. Age-standardized mortality rates (ASMR) and trends were estimated by the AAPC (annual average percentage change). The effect of age, period and birth cohort was based on the Poisson regression model.

Results:

There were 13,908 deaths from pancreatic cancer for 20-year period, of which 7,392 (53%) were women. ASMR ranged from 16.5 in 1996 to 19.9 / 100,000 in 2017 for men with there was an increase 1.0% per year, for women from 9.8 in 1996 to 15.7 / 100,000 in 2017 (1.2% y). Same increase was observed in the North regional health center of 1.2% for men and 2.2% for women, in Southeast regional health center of 1.5% for men and 1.4% for women and East regional center for women at 1.6%. The effect of the age-period-cohort model in both sexes showed the best fit and the mortality rate adjusted with age. Independent of the regional health centers the highest-risk cohorts were men born between 1941 and 1956 and women born after 1941.

Conclusions:

We observed an increase in pancreatic cancer mortality, in both sexes, in the city of São Paulo. There are differences in mortality rates depending on the regional health center in the city of Sao Paulo, and for those born between 1941 and 1956 has a higher risk of death independent of the regional health center.

P_28

Global and specific burden of breast cancer in women Pasto – Colombia 2010-2014

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[1]University of Nariño - Center for Health Studies CESUN, Cancer Registry of Pasto, Public Health Research Group, Pasto, Colombia, [2]Medicine Program, Faculty of Health Sciences, University of Nariño, Pasto, Colombia, [3]Faculty of Medicine, University of Antioquia, Medellin, Colombia

Biography:

University of Nariño- Center for Health Studies CESUN, Cancer Registry of Pasto, Public Health Research Group.

Objective:

The effect of breast cancer (BC) on populations has been studied from simple epidemiological indicators, such as incidence, mortality and survival, however, it is not enough to explain its impact on the population. Complex indicators such as Disability Adjusted Life Years (DALYs) provide a more comprehensive analysis. The objective of this study is to estimate the global and specific burden of BC in women from Pasto-Colombia between 2010-2014.

Methodology:

A descriptive observational study on resident women from Pasto-Colombia, diagnosed with BC during 2010-2014 and characterized by the Cancer Registry of Pasto. Global and specific burden by socioeconomic conditions (area of residence, stratum, employment, educational level, health insurance) and demographic data (age) was estimated with DALYs, which was obtained from the sum of the Years of Life Lost by Premature Death (YLL) and Years of Life Lived with Disability (YLD). This methodology has been proposed by the World Health Organization.

Results:

The global burden of BC in Pasto-Colombia is 2,364 DALYs (rate 2.15 DALYs x1,000 women/year). The highest specific burden was estimated in women living in urban areas (rate 2.6 DALYs x1,000 women / year), from high stratum (rate 2.32 DALY x 1,000 women/year), with employement (rate 13.41 DALY x 1,000 women/year), with low educational level (rate 5.19 DALY x1,000 women/year), from a private health insurance (rate 6.28 DALYs x1,000 women/year), and in women aged 60 to 79 years (rate 7.9 DALYs x1,000 women / year).

Conclusion:

The formulation of public health policies should consider that breast cancer has a greater impact on older age groups and on women in favorable socioeconomic conditions.

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Risk of death by causes other than breast cancer by molecular subtype, stage and adherence to treatment in breast cancer patients of Tarragona and Girona, Catalonia, Spain

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Biography:

Alberto Ameijide is a biostatistician, works in the Tarragona Cancer Registry and his scientific career has been focused on estimating the epidemiological indicators of cancer (Incidence, Mortality, Survival and Prevalence) based on population cancer registries data and in the development of methods and applications for the exploitation of these data.

Objectives:

In Catalonia, mortality from breast cancer (BC) is still the leading cause of cancer death in women. Women with BC can show an excess of mortality (EM) due to cardiovascular problems and other long-term causes because of shared hormonal and genetic risk factors and secondary effects of treatments.

Objective: To assess the causes of mortality for causes other than BC in patients diagnosed with BC in Girona and Tarragona, estimating EM at 8 years, globally and by molecular subtype, stage and adherence to treatment.

Materials and methods:

Population-based cohort study with all women aged 15-84 years diagnosed with invasive BC in the provinces of Tarragona and Girona during the period 2007-2009 (N = 2,083). Passive and active follow-up was done until December 31, 2017. The standardized mortality ratios (SMR) were evaluated at 8 years for causes other than BC excluding women who died due to BC. The analysis was performed globally, by molecular subtype (Luminal A, Luminal B, HER2-enriched, Triple Negative), by stage (I, II, III, IV) and by adherence to treatment.

Results:

Globally, the SMR was 0.98 (95% CI: 0.83-1.15) and it only was statistically significant for the ovary (3.55). By molecular subtype, the SMR was 0.90 in Luminal A, 0.68 in Luminal B, 1.22 in HER2-enriched and 1.82 for Triple Negative. By stage, the SMR was 0.65, 0.74, 0.88 and 8.11 in stages I, II, III and IV respectively. The SMR of ovarian cancer (4.55) was statistically significant in stage I, while that of diseases of the circulatory system (15.63) was significant in stage IV. By adherence to treatment, the SMR was 0.54 among patients with good adherence compared to 0.99 in patients with poor adherence.

Discussion and conclusions:

The limitations of this study are the use of official causes of death and the small sample size for some study groups. Women with BC who do not die from this cancer have a higher risk of dying from ovarian cancer and appear to have a lower risk of dying from other causes if their cancer is luminal type or if they have good adherence to treatment.

P_30

Childhood Head and Neck Cancer in France: Incidence, survival and trends from 2000 to 2015

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Biography:

Public Health Physician. Epidemiologist in the French National Childhood Cancer Registry. Affiliated with INSERM Research Center, CRESS UMR 1153 "Epidemiology and Statistics".

Background:

Childhood head and neck cancers (HNC) are rare and represent a complex group of anatomical topographies.

Objective:

The aim of the study is to describe the main characteristics of HNC, their distribution by topography and histology, and to provide national estimates of the incidence and survival rates of children with malignant HNC in the French population over the 2000-2015 period. Then incidence and survival trends over the study period are analyzed.

Methods:

A population-based study was conducted between 2000 and 2015 in children less than 15 years with a diagnosis of HNC using the National Registry of Childhood Cancers database (RNCE). Age-standardized incidence rates (ASR) and survival analysis were performed.

Results:

The 1623 included HNC represented 5.6% of all cancers included in the RNCE. The thyroid was the leading tumor site category (26.6%), followed by the pharynx (17.1%) and head and neck soft tissue location (15.4%). The most common cancers were thyroid gland carcinomas (26.1%), rhabdomyosarcomas (23.9%) and Burkitt Lymphomas (8.6%). Cutaneous melanomas, nasopharynx cancer and sarcomas showed a male excess. Conversely, thyroid and salivary gland carcinomas were more frequent in girls with a 0.5-0.7 ratio. The mean age at diagnosis was 8.1 years. Neuroblastoma affected the youngest children (mean age: 1.5 years) and UCNT was found among the oldest (mean age: 12.4 years).The annual ASR was 8.6 new cancer cases per million children. HNC incidence was stable over time with an average annual percent change of 0.1% [95%CI: -1.1 % to 1.2 %, p-value = 0.94]. A 5-year overall survival (OS) >85% was observed for lymphomas, neuroblastomas, germ-cell tumors, carcinomas and melanomas, whereas 5-year OS was around 65-75% for osteosarcomas and rhabdomyosarcomas. There was no variation in 5-year OS between 2000-2007 and 2008-2015 for all HNC combined and by diagnostic groups.

Conclusion:

Epidemiological data on HNC distribution, incidence and survival contributes to better understand these tumors by quantifying their impact on the French population and assessing their burden. Regarding the exclusion of topographies and some histological origins performed by some authors, this report proposes new recommendations to study HNC in a pediatric population.

P_31

The WASABY Environmental Pilot Study in Alto Adige area

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Biography:

Alessandro Borgini is an environmental health researcher biologist at the Environmental Epidemiology Unit, Fondazione IRCCS Istituto Nazionale dei Tumori, Milan expert in the assessment of exposure to specific contaminants in environmental matrix (air, water and soil) and acute and chronic effects in populations living in particularly contaminated areas.

Background and Aims:

The specific aims of the WASABY WP7 were the evaluation of the availability and identification of databases for epidemiological analysis, containing European environmental monitoring data of the main environmental contaminants persisting in water and soil matrices. WP7 applied methods for geographic linkage of such information with Cancer Registry (CR) data, specifically breast cancer incident cases of 0-49 years old women, to estimate the possibility of effects by pollutants exposure.

Materials and methods:

We considered the Alto Adige province as the geographic area for this pilot study. The Empirical Bayesian Kriging interpolation method was applied to estimate the distribution of pollutants on this area, starting from fixed sources of water pollution (pollutants were significantly lower than the limits fixed by the law).

The record linkage variable between estimated data on pollution and CR cases was the Census Tract (CT), which allowed to associate 2004-2013 WASABY cancer cases to potential pollution in the same area.

The possible connection between pollutant variables and clusters was evaluated by logistic regression model (Relative Risk Ratios, $p<0.05$).

Results:

We considered different persistent pollutants in the water of the province. The information came from the various water wells for water inspection existing in the area, as collected by the EEA Water Quality Database (2000-2012). All the water wells were geo-coded in terms of X&Y coordinates and attributed to the corresponding CT. According to the examined literature, also the water wells in a 10 kilometres buffer outside the area were considered for interpolation. Fifteen pollutants were considered and seven of them (aldrin, chlorpyrifos, dieldrin, endrin, simazine, trichloroethylene, trichloromethane) were associated to an increasing risk of presence of incidence clusters.

Conclusion:

In general, the valid and reliable application of this method to CR data have shown that basic exploratory studies on possible population health issues due to environmental exposure could be developed using existing data sources, therefore with lesser expenses than starting from new data collection. The main limit of such methodology resides in the fact that the findings show association and not causal relationships, for which studies able to go deeper must be used.

P_32

Serum Bisphenol-A concentrations and cancer in the Murcia-cohort in the Spanish European Prospective Investigation into Cancer and Nutrition

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Biography:

Researcher of the CIBER on Epidemiology and Public Health, member of the Research Group on Epidemiology and Public Health of the IMIB-Arrixaca. As researcher of the EPIC project, she has participated in several studies on the interaction of genetic, biochemical and lifestyle factors, endocrine disruptors and cancer.

Objective:

To describe serum bisphenol-A (BPA) concentrations and evaluate the relationship between BPA concentrations and overall cancer risk in a case-cohort study nested within the European Prospective Investigation into Cancer and Nutrition (EPIC)-Murcia study.

Methods:

The EPIC-Murcia cohort consists of 8515 healthy volunteers, recruited in 1992-1996 and followed-up for over 20 years. The analysis included a random sub-cohort of 990 participants and 872 incident cancer cases without missing data on BPA. The participants provided a fasting blood sample at recruitment. BPA concentrations were measured by UHPLC-MS/MS. Data on sociodemographic and lifestyle variables were collected in face-to-face interviews. Anthropometric measurements were taken using standard methods. Geometric means (GM) and 95% confidence intervals (95% CI) of BPA concentrations stratified by sex were calculated in cases and sub-cohort members according to study characteristics. Hazard ratios (HR) of BPA concentrations by cancer cases were estimated by means of proportional hazards Cox models, using Borgan weights to account for the case-control design. Models were adjusted by analysis batch, sex, age, education, BMI, waist circumference, smoking, alcohol consumption and recreational physical activity.

Results:

Roughly 70% of sub-cohort participants and 90% of cancer cases had detectable BPA concentrations (limit of detection: 0.2 ng/ml). Although the geometric mean of serum BPA was higher in cases than sub-cohort members (2.23 ng/ml vs. 1.13 ng/ml in men; 2.18 ng/ml vs. 1.26 ng/ml in women), multivariate Cox regression analyses showed no statistically significant associations between BPA concentrations and risk of incident cancer in the EPIC-Murcia cohort, either when modelled as a continuous variable (HR per doubling of BPA concentration = 0.99, 95%CI: 0.94-1.01; P=0.585) or when categorized by increasing BPA levels (HR high vs. low=0.88, 95%CI: 0.64-1.20; P=0.406). Results remained unchanged when stratifying by sex.

Conclusion:

Our results found no evidence of an increased risk of cancer associated with BPA concentration assessed in samples from the early 1990s in the EPIC-Murcia cohort. Further studies involving more recent BPA exposure and analogue bisphenol species are warranted to evaluate changes in the potential health hazard of BPA on cancer risk.

Funding:

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P_33

Advanced breast cancer: survival trends for women diagnosed during 2001-2014 in 10 GRELL countries (CONCORD-3)

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Biography:

Pamela Minicozzi worked as a Research Fellow at the Fondazione IRCCS Istituto Nazionale Tumori, Milan, on EUROCARE and related studies. She has been working in the Cancer Survival Group at the London School of Hygiene and Tropical Medicine since August 2019, on the CONCORD programme and the VENUSCANCER project.

Objective:

Most women with breast cancer are diagnosed at an early stage, but some present with locally advanced or metastatic disease. We examined data for women (15-99 years) diagnosed with advanced breast cancer, and estimated trends in age-standardised net survival in the GRELL countries that participated in CONCORD-3.

Methods:

Cancer registries were included in the analyses if data on stage at diagnosis were available for at least 70% of the women. “Advanced stage” was defined as T4 any N M0 or M1.
We estimated 1- and 5-year net survival using the Pohar Perme estimator. To control for background mortality, we used life tables of all-cause mortality by single year of age, sex, region or country, and calendar year. Survival estimates for all ages combined were age-standardised using the International Cancer Survival Standard weights.

Results:

Individual data were available from 43 population-based cancer registries in 10 GRELL countries on 3 continents for 437,729 women who were diagnosed with breast cancer during 2001-2014. Of these, 37,282 (9%) presented with advanced disease, ranging between 7-12% in Europe and Canada, and 9-36% in Latin America.

Age-standardised 1-year net survival for advanced disease ranged from 78% (Canada) to 86% (Cuba) during 2001-2003 and from 74% (Canada) to 85% (Puerto Rico) during 2010-2014. Age-standardised 5-year net survival ranged from 37% (Canada) to 57% (Cuba) during 2001-2003 and from 37% (Canada) to 63% (Puerto Rico) during 2010-2014.

Trends in net survival for advanced disease by age at diagnosis will also be presented.

Conclusions:

These preliminary results offer the most up-to-date picture of the advanced stage breast cancer burden in GRELL countries. More detailed results by age may help countries to target public health interventions.

P_34

The rising Incidence Trends of Thyroid Carcinomas in Algeria. True Increase or Overdiagnosis?

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Biography:

Dr. Houda Boukheris earned her medical degree and a postgraduate degree in Epidemiology from the University of Algiers in Algeria. She is a former IARC and NCI/NIH post-doctoral fellow. Her research interests focus on thyroid cancer incidence and trends over the last decades in Algeria, using population-based data.

Introduction:

Over the last three decades, the incidence of thyroid cancer (TC) has increased in many parts of the world, and the reasons for this increase remain controversial. We conducted a population-based study to determine TC incidence and trends according to factors such as age, sex, histopathologic type, and tumor size.

Population and Methods:

We included in the study patients who were diagnosed with histologically confirmed TC between 1993 and 2013 and who were permanent residents of the Oran district at the time of TC diagnosis. Information on TC cases were collected retrospectively through medical records and pathology reports in 43 healthcare institutions throughout Oran. Age-adjusted incidence rates were calculated for men and women, for the major histopathologic types, and by tumor size. Incidence rates were expressed per 100 000 person-years. Annual percent change in rates was calculated using log-linear regression.

Results:

During the study period TC incidence significantly increased for men and women (APC: +5,56% ; $p < 0.05$ et +11,16% ; $p < 0.05$), mostly due to increases in the incidence of the papillary histotype (APC: +5,48% ; $p < 0.05$ et +14,38% ; $p < 0.05$). The increase in incidence rates was more pronounced for women <45 years (APC: +8,11% ; $p < 0.05$) compared with women ≥45 years (APC: +5,58% ; $p < 0.05$), and for men ≥45 years (APC: +26,51% $p < 0.05$) compared with men <45 years (APC: +15,55% ; $p < 0.05$), for microcarcinomas (≤10 mm) in women (APC: +7.30% ; $p < 0.05$), and carcinomas >40 mm in men (APC: +20,24% ; $p < 0.05$). During the same period the incidence of follicular thyroid carcinomas significantly decreased (VAP: -3.78% ; $p < 0{,}05$).

Conclusion:

Within 21 years, the incidence of TC has tripled in Oran driven largely by carcinomas of the papillary histotype. Increased surgery activity in a context of endemic goiter, the introduction of neck ultrasound and fine needle aspiration in the 1990s may have caused an overdiagnosis. The role of iodine supplementation along with changes in lifestyle and exposure to environmental factors is also discussed.

P_35

Epidemiology of cutaneous malignant melanoma in Reunion Island

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Biography:

Public Health Physician.
Head of the Reunion Cancer Registry.
Head of the Cancer Coordination Centres of Reunion Island.

Introduction:

The incidence of cutaneous malignant melanoma (CMM) is increasing worldwide. The aim of this study was to evaluate the epidemiology of CMM in Reunion Island, a French overseas department whose population is characterized by high ethnic diversity and high exposure to ultraviolet radiation.

Methods:

This population-based study examined all cases of in situ CMM and invasive CMM diagnosed between 1 January and 31 December 2015 in the Reunionese population and collected by the Reunion Island Cancer Registry. Additional data on risk factors for skin tumours and CMM clinicopathological features were collected retrospectively for all patients by their dermatologist. Cases of mucosal or ocular melanomas were excluded from the study.

Results:

One hundred and three new cases of CMM were recorded in 2015 in Reunion Island, 33 cases of in situ CMM and 70 cases of invasive CMM. The sex ratio of men to women was 1.3, and 80% of patients had a fair skin phototype (Fitzpatrick skin phototype ≤III). Superficial spreading melanoma was the most common CMM (70% of all tumors); dark-skinned patients were more likely to have acro-lentiginous melanoma than patients with skin phototype ≤III (33.3% vs 1.2%).

Age-standardized incidence rates of invasive CMM for all skin phototypes combined were 6.7 /100,000 person-years (PY) in women and 5,3 /100,000 PY in men. They showed significant heterogeneity according to region of residence, ranging from 2.2 /100,000 PY for women residing in the east part of the island, to 11.8 /100,000 PY for men residing in the west region of the island which is characterized by many beaches and has the highest proportion of inhabitants originating from metropolitan France. Crude incidence rates of invasive CMM for fair skin phototypes were estimated to be over 21 /100,000 PY in women and over 25 /100,000 PY in men.

Conclusions:

In Reunion Island, the incidence of CMM in the population with fair skin phototype is very high. Primary and secondary prevention measures should be reinforced and tailored to the local context.

P_36

Survival of bladder cancer in France, 1989-2018: Interpreting an adverse trend

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Biography:

Medical Doctor in Public Health and Epidemiologist at the Tarn general cancer registry since 2005, member of Francim network, involved more particularly in French collaborative studies, training and quality of French registries, and evaluation of cancer care in real life in collaboration with the INSERM Cerpop U1225 team.

Background:

Survival is an essential indicator to assess the impact of global management of cancer over time. However, the observed trends sometimes reflect a change in the definition of the registered tumors. We illustrate this point by presenting long-term trends in bladder cancer survival in France.

Methods:

All bladder infiltrating tumors (i.e. invading the lamina propria, behavior /3, excluding pTa-pTis due to metachronous recording by French registries) diagnosed from 1989 to 2015 in one of the metropolitan departments covered by a registry were included. Vital status was updated to June 30, 2018. Net survival and trends over year of diagnosis were estimated using a novel approach based on penalized multidimensional splines to model excess mortality rates.

Results:

The 5-year standardized net survival (5Y-SNS) of bladder infiltrating tumors is slightly worse in women (49 %) than in men (55 %). This difference is observed for all ages and related to higher immediate excess mortality among women. The 1, 5 and 10Y-SNS decreased from 1990 to 2010 (80 % to 77 %, 58 % to 53 % and 49 % to 46 % respectively). These decreases are mainly observed among the youngest patients (50 years old).

Discussion:

It is very likely that this decrease does not reflect a worsening prognosis but is primarily related to the change in the definition of bladder cancer cases. Indeed, the registration of these tumors has long suffered from a lack of consensus in defining their malignancy, and initially many bladder tumors were wrongly considered as infiltrative. Stricter pathological definition and registration rules have gradually spread, leading to a decrease in the incidence of infiltrative bladder tumors. The exclusion from the records of non-infiltrative tumors with a better prognosis logically led to an artificial decrease in survival. This phenomenon seems to have been more important in young patients. The fact that non-infiltrating tumors were no longer considered and that they were not counted until they became infiltrating could only have shifted the diagnosis to older ages, leaving in young people only the more aggressive immediately infiltrating tumors.

P_37

Colorectal cancer in the young adult: analysis of Marche’s tumor registry

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Biography:

Prof. Emilia Prospero has several year of experience in the following area of activity: hygiene, Tumor registry, cancer epidemiology, public health, planning, organization and management of health services and health education, hospital services associated with care practice, creation of guidelines for management, investigation, infection prevention and control, epidemiological surveillance.

Background and aim:

The incidence of Colorectal cancer (CRC) over the total number of new cancer cases is one of the highest in both men and women aged 50 years or more in the period 2008-2016.

According to an international study in some countries, including Italy, CRC incidence rate is decreasing in individuals aged 65 years or more, while it’s increasing among individuals younger than 50 ; statistically significant drops in annual mean percentage of incidence rates for CRC were found for both genders in 50-69 years old and 70 years and older age groups, while there were no significant differences among those younger than 50 (AIRTUM, 2020).

Aim of the study is to compare the incidence of CRC between age groups in the Marche Region in the period 2010-2015, to check if there is also an increasing incidence in young adults.

Methods:

Standardized incidence ratios (SIRs) have been estimated on aggregated data from Marche’s regional tumor registry (RTM), considering the time period 2010-2015 for all municipalities of Marche’s region. Temporal trends in age standardized incidence rates were estimated by the Average Annual Percent Change (AAPC) through joinpoint regression; p-values were calculated using Monte Carlo permutation method.

Results:

CRC’s incidence temporal trend shows a general decrease in the considered age groups. Regarding males, the incidence of CRC shows a significant decreasing trend in individuals aged 50 to 64 years (AAPC=-7.3, p-value=0.040), 50 to 69 (AAPC=-7.7%, p-value=0.030), 65 years and older (AAPC=-5.9%, p-value=0.010) and 70 years and older (AAPC=-5,6%, p-value=0.010); the same occurs considering all ages. Regarding females, statistically significant declining trends in CRC’s incidence rates were found among residents aged 45 to 49 years (AAPC=-7.6%, p-value=0.013), 50 to 64 (AAPC=-6.5%, p-value=0.003) and all ages overall.

Conclusions:

This work confirms that in the Marche region the incidence of CRC is decreasing in older people more evidently among men; considering people younger than 50 years of age, the CRC incidence is decreasing for both genders, with a statistically significant decrease in women of the age group 45-49 years.

P_38

The epidemiology of multiple primary cancers in Belgium (2004-2017): proportion, risk and impact on relative survival estimates

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[1]Belgian Cancer Registry, Bruxelles, Belgium

Biography:

Gilles Macq works as statistician at the Belgian Cancer Registry in the research department since 2015. He received his master in statistics from UCLouvain in 2015.

Introduction:

Because life expectancy is continuously increasing and more effective treatments have improved survival from a first primary cancer, the incidence of multiple primary cancer (MPC) has augmented and is expected to further increase. For the first time in Belgium, we examined MPC using data from the Belgian Cancer Registry, a population-based cancer registry with a rather recent onset (2004).

Methodology:

This study, based on primary cancers diagnosed between 2004 and 2017, describes MPC from different viewing angles: incidence of MPC, the proportion of MPC and its evolution over time, the impact of inclusion or exclusion of MPC on relative survival estimates (RS) and the risk for a second primary cancer compared to the risk for a first primary cancer.

Results:

The proportion of MPC increases with age, varies across cancer sites (from 4% for testis cancer to 22.8% for oesophageal cancer), is higher in men than in women, increases linearly with time, and this trend is more pronounced with increasing age at diagnosis. The inclusion of MPC resulted in smaller 5-year RS and this impact is larger on cancer sites with typically high RS. Patients with a first primary cancer have an increased risk to develop a new primary cancer compared to the population free of cancer (1.27 and 1.59 times higher in men and women, respectively).

Conclusion:

This population-based study characterises for the first time MPC in Belgium. The risk of developing a second primary cancer among patients with a history of cancer is higher than the risk to develop a first primary cancer in the population without such history. Moreover, the survival decreases when MPC are included. By consequence, follow-up of cancer patients is a major concern especially as MPC increase over time.

P_39

ETIOSARC study: environmental aetiology of sarcomas from a French prospective multicentric population-based case control study

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Biography:

I am an epidemiologist in the Epicene team since 2017. This team develops research on the relationship between environmental and occupational exposures and the occurrence of cancers. More specifically, I work on the ETIOSARC study, a French prospective multicentric population-based case control study on environmental aetiology of sarcomas.

Abstract:

Sarcomas are rare tumours of connective tissue. Their exact overall incidence is unknown due to diagnostic difficulties and the various histological subtypes (over 80 subtypes). However, the apparent increasing incidence suggests environmental causes such as pesticides. Except for some specific factors (ie, ionising radiation, vinyl chloride, dioxin and genetic predispositions) the scientific knowledge on the aetiology of sarcomas is sparse and inconsistent. France is a particularly appropriate country to set up a study investigating the causes of sarcoma occurrence due to the French organisation in treatment and care of sarcoma patients, which is highly structured and revolved around national expert networks.

The main objective of the ETIOSARC project is to study the role of lifestyle, environmental and occupational factors in the occurrence of sarcomas among adults from a multicentre population-based case–control study.

Cases are all incident patients (18-79 years old) prospectively identified in 16 districts of France covered by a general population-based cancer registry and/or a reference centre in sarcoma's patient care over a 3-year period with an inclusion start date ranging from February 2019 to January 2022 and histologically confirmed by a second review of the diagnosis. Two controls are individually matched by sex, age (5 years group) and districts of residence and randomly selected from electoral rolls. A standardised questionnaire is administered by a trained interviewer in order to gather information about occupational and residential history, demographic and socioeconomic characteristics and lifestyle factors. At the end of the interview, a saliva sample is systematically proposed.

To date, 6 districts have started the inclusions of cases and controls. Inclusions began on February 1, 2019 in Gironde, Lille and Haut-Rhin, on June, 1 in Rhône, on August, 1 in Isère and in November, 1 in Poitou-Charentes. Between 02/01/2019 and 03/11/2021, 636 cases have been reported and 296 cases agreed to participate, for a participation rate of nearly 60%. The first results of the study seem to indicate that the procedures for recruiting cases and controls seem effective, which is encouraging for the rest of the study.

P_40

Incidence of lung cancer by activity sector among employees: first results of a pilot study in France (2010-2014)

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Biography:

Epidemiologist in charge of the epidemiological surveillance of occupational cancers at the Environmental and occupational Health divison of Santé Publique France, the French National Public Health Agency.

Background:

Numerous occupational exposures to lung carcinogens have been documented. IARC estimated that 14% of incident lung cancers were attributable to occupational exposures in France in 2015. The objective of this study was to compare the incidence of lung cancers between activity sectors.

Method:

A case-control study on lung cancer was undertaken as a part of a pilot study aiming at implementing a monitoring system of occupational cancers in France. Cases were lung cancer patients diagnosed in 2010-2014 recorded in two cancer registries (Lille area, and Doubs et territoire de Belfort). Controls were selected at random from the files of the National Pension Fund among individuals living or working in the same area as the cases at the time of cancer diagnosis (CNAV). Information on work history was retrieved by CNAV for lung cancer cases (n=2 318) and the controls (n=281 470) affiliated to the General Social Security Scheme. Exposure was defined as being employed in a given activity sector for at least one year during entire work history. Logistic regressions were conducted separately for men and women for each activity sector, adjusting for age, year and registry.

Results:

Among men we found a significantly increased risk of lung cancer in 7 activity sectors out of 17. Highest OR were observed in water supply; sewerage, waste management and remediation activities (OR=1.64 [1.20-2.26]); and accommodation and food service activities (OR=1.70 [1.37-2.11]). The sector of manufacturing was associated with a significantly decreased OR of lung cancer (OR=0.90 [0.83-0.98]). Among women, the risk of lung cancer was significantly increased in the sector of financial and insurance activities (OR=1.40 [1.01-1.93]).

Conclusion:

The activity sectors identified at increased risk of lung cancers in men are similar to other studies on mortality in different countries and fits with activity sectors with a high proportion of employees exposed to carcinogens. Further research are needed for manufacturing industries to take into account disparities within this activity sector and for women in the sector activity of financial and insurance activities.

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National Estimates and Trends in Lip, Oral cavity and Pharyngeal cancers incidence by subsite in France over 1990-2018

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Biography:

Epidemiologist, head of the Lille area General Cancer Registry for 3 years.

Background:

Distinguishing Lip, Oral cavity and Pharyngeal cancers by subsite in epidemiological studies appears of importance from the clinical and public health points of view. This study aims to report the first national French estimates of Lip, Oral cavity and Pharyngeal cancers incidence by subsite and their 1990-2018 time trends.

Methods:

Incidence rates were modelled from regional cancer registries data, using bidimensional penalized splines of age and year for 6 sub-sites: Lip, Oral cavity, Salivary glands, Oro-, Naso- and Hypopharynx. Trends in age-standardized (world) rates (ASR, per 100 000 person-years) were summarized by the average annual percent changes (AAPC).

Results:

Among men, over the study period, incidence decreased significantly for Lip (AAPC: -3.9%, ASR: 0.6 in 2018), Oral cavity (AAPC: -2.7%, ASR: 5.7 in 2018), Oropharyngeal (AAPC: -1.9%, ASR: 7.1 in 2018) and Hypopharyngeal (AAPC: -3.7%, ASR: 3.4 in 2018) cancers. The decreases were more important for the youngest men. Among women, incidence increased significantly for Oral cavity (AAPC: 1.4%, ASR: 2.3 in 2018), Salivary glands (AAPC: 0.9%, ASR: 0.5 in 2018), Oropharyngeal (AAPC: 2.9%, ASR: 2.1 in 2018) and Hypopharyngeal (AAPC: 1.7%, ASR: 0.5 in 2018) cancers. For Oral cavity and Oropharyngeal cancers, the rises concerned mainly women aged more than 50, while the rates declined for the youngest. Patterns sometimes varied according to the sub-period.

Discussion:

In France, although declining for more than 5 decades, the level of alcohol consumption remained high. In parallel, regular tobacco consumption spread among women whereas it decreased among men. Trends in incidence of oral cavity, Oropharyngeal and Hypopharyngeal cancers logically followed these changes after a latency period. In several countries, trends in Oropharyngeal cancer incidence appeared to differ from those for other alcohol- and tobacco-related Lip, Oral cavity and Pharyngeal cancers, due to an increase in HPV-related cancers. In France, Oropharyngeal cancers appeared to somewhat decrease less among men, and increase more among women than Oral cavity and Hypopharyngeal cancers do. It is likely that in this country alcohol and tobacco consumptions are still the leading causes of Oropharyngeal cancer.

P_42

Trend in breast cancer incidence among young women in the Manche French department

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Biography:

After obtaining her medical degree and then receiving a Master in Public Health, Simona was promoted the Director of Manche Cancer Registry since 2006. She manages the Cancer Registry Staff and ensures duties are performed accurately and efficiently following all applicable rules, regulations and policies.

Background:

Despite the increase of breast cancer incidence with age, approximately 7 to 10% of women diagnosed with breast cancer are younger than the age 40. This subgroup of patients has different risk factors, tumor biology or clinical outcomes. The purpose of the study was to describe the trend in the incidence of breast cancer in women under 40 in the Manche French department for the period 1994-2017 and compare it with the trend observed in other age groups.

Methods:

Data from Manche Cancer Registry were analyzed. World age-standardized incidence rates were analyzed using a Poisson regression model, in order to estimate average annual percent changes (AAPCs).

Results:

During the period 1994-2017, 9 019 women with breast cancer were identified, represented 31.7% of solid invasive tumour in women from Manche department. The cancers of young women account for 5.5 % of women diagnosed with invasive breast cancer. During the overall period, invasive breast cancer incidence in women under 40 increased regularly, with an estimated annual percentage change of 1.74% per year (95% CI: 0.53-2.97). While in women aged 40-60, the increase is smaller (1.12% per year), the incidence rates among women aged 60-80 increased more by 2.46% per year. The incidence rates varied from 5.7 per 100 000 young women in first period (1994-2000) to 7.4 in last period (2009-2017). In women aged over 40, the incidence rates varied from 67 per 100 000 women during the first period (1994-2000) to 86.6 in the last period (2009-2017).

Conclusions:

In our study, the increase in breast cancer incidence in women under 40 was quite low but significant over the 23-years. This increase can be due to a rise in risk factors and/or changes in diagnosis and surveillance practices for period considered.

P_43

Mesothelioma data quality in GRELL and other European countries: geographical and temporal variability

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Biography:

I am a statistician and I have been working since 2016 in Cancer Information Group at the European Commission Joint Research Centre. My main responsibilities are cancer data harmonisation and analysis. I previously worked at the Tuscany and Belgium Cancer Registries, and the EORTC.

Objectives:

The study objective is to assess data quality in mesothelioma in GRELL and other European countries by highlighting geographical and temporal differences in topography and morphology coding, mortality and survival.

Methods:

From the European Cancer Information System (ECIS) database, 65063 malignant cases either with morphology 9050-9053 (mesothelioma) or with site C38.4 (pleura), morphology 8000-8001 and basis of diagnosis DCO, clinical or clinical investigation were extracted. Incident cases in period 2004-2014 and registered in 101 cancer registries (CRs) were selected: 11065 cases from 65 GRELL CRs (Belgium (national), Switzerland (4), Spain (10), France (15), Italy (32), Portugal (3)) and 53998 from 36 CRs in 22 other European countries. Distribution by site and morphology, and relative survival has been calculated for periods 2004-2008 and 2009-2014. Mortality rates for mesothelioma and pleura were calculated for GRELL and other countries in the two periods.

Results:

The proportion of topography C80.9 (unknown primary site) was <1% in GRELL and 5% in other countries, while 91% and 88% of cases were coded as pleura in GRELL and other countries respectively. 6% and 2% of cases had morphology 8000-8001 in GRELL and in other countries respectively. Between 2004-2008 and 2009-2014 cases with morphology 9050 (mesothelioma, NOS) decreased from 34% to 25% in GRELL, and from 63% to 49% in other countries. Epithelioid (9052), the most commonly specified morphology, increased from 45% to 53% in GRELL, and from 26% to 35% in other countries between 2004-2008 and 2009-2014. 1-year relative survival was 45% in GRELL and 36% in other countries, while 3-year survival was 12% in GRELL and 7% in other countries. In GRELL countries 1-year survival ranged from 41% in Portugal to 50% in Switzerland, while 3-year survival ranged from 10% in Spain to 15% in Switzerland. Mortality rates for mesothelioma and pleura will be presented at the GRELL Meeting.

Conclusions:

Geographical and temporal differences in data quality have been observed between GRELL and other European countries. GRELL countries had lower proportion of unspecified topography and morphology, which could be related to the higher survival rates compared with other European countries.

P_44

PSA levels at prostate cancer diagnosis in 2001 and 2008-2016 in France: a population-based study

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Biography:

Directrice du registre des cancers du Tarn.

Background:

As PSA-screening tends to decrease, it is important to monitor the prognosis indicators of prostate cancer among incident cases. PSA is a good prognosis indicator and the easiest to collect for registries because it is routinely measured.

Methods:

Each registry collected PSA levels at diagnosis for a random sample of prostate cancer cases for the year 2001 and systematically each year from 2008 to 2016 (16 863 cases).

The analysis describes the evolution of the proportion of cases with a PSA level ≥ 20ng. We considered the different sampling rates and the results are presented after weighting. We used the module svyset (stata11) to calculate proportions and adjusted ORs.

Results:

In the study period the incidence of prostate cancer has changed significantly. The standardized rate (world) was 93°/0000 in 2001 and reached a maximum in 2005 (130°/0000). In 2008, it was 114°/0000 and in 2015 it was 81°/0000. The proportion of cases that did not have a PSA test varies between 2 and 5% with no clear trend. For 4 to 1% of the cases the registry did not find the PSA, a decrease is observed in the recent period. For cases with a known PSA level at diagnosis, the proportion of cases with a level greater than or equal to 20ng/ml was 33% in 2001, 14% in 2008, 13% in 2009 and 2010 and then steadily increasing to around 17% in 2018. PSA levels are higher in older patients. PSA levels are ≥20ng in 11.5% of those under 75 years and 35.9% in those 75 years or older. In 2001, 33.3% of cases were 75 years or older. From 2008 to 2016 this figure remained stable at around 27.5%.

While the risk of having a PSA ≥20ng adjusted (OR) for age and registry is 1 in 2008, it was 3.27 in 2001, 1.24 in 2015 and 1.19 in 2016.

Conclusion:

Since 2008 there has been an increase in the risk of having a PSA≥ 20ng/ml in patients with prostate cancer. However, this increase is minimal compared to the decrease in the incidence.

P_45

Breast Cancer in Cuba

Yaima Galán Alvarez

Abstract:

Breast Cancer is a health problem in Cuba because of high incidence and mortality rates. It is the most common cause of cancer among women excluding skin cancer. It is also the second cause of cancer death in women. The objective was to descriptive epidemiology of the disease, focusing on some of the key elements of the geographical and temporal variations in incidence and mortality. Methods: Based on the data provided by the National Cancer Registry (NCR) for the period 1990-2017, age specific rates, crude and world adjusted rates (ASWR) were calculate using the direct method. The distribution in percentile of ASWR by province was used to show the geographical distribution. A trend analysis of incidence and mortality since 1990 was performed using jointpoint regression. Result: An annual average of 3 600 new cases were diagnosed in the last years, with a rate of 39.4 cases per 100 000 inhabitants. The highest risk group was that of 60 years or older, which represents 52% of all the diagnosed cases, with around 1000 new cases and a rate of 164.5 for every 100 000 women. There is an increasing trend for incidence ($p < 0.05$) with a 2% annual average change (95% Confidence Interval, 1.5-2.7). Most of the Breast cancer cases are diagnosed in localized stage. Nevertheless no change is observed in the proportion of cases diagnosed at advanced stage (25%). but difference in the stage distribution by province was observed. A decreasing mortality trends is observed in the last years as well as improve in overall survival. This could be associated with the introduction of guideline for diagnosis and treatment in whole country. Conclusion. Actions for improve outcome in breast cancer have shown promissory results. Actions based in secondary prevention are doing taken into account geographical incidence. Further study is necessary to examined temporal trends in incidence rates by age group, stage, and histology.

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Risk of Myocardial Infarction in patients with Multiple Myeloma. An analysis from two population databases in Côte d'Or

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Biography:

Clara Doisy is a PharmD in the Haematology Laboratory of the CHU of Dijon.

Objectives:

Multiple Myeloma (MM) is a plasma cell malignancy that accounts for 10% of hematological cancers and predominantly affects elderly people. Consequently, many patients with MM have cardiovascular comorbidities or risk factors. Furthermore, therapeutic options used are known to provoque cardiologic side effects. Based on database from the Registre des Hémopathies Malignes de Côte d'Or (RHEMCO) and from the Observatoire des Infarctus de Côte d'Or (RICO) we aimed to assess the risk of Myocardial Infarction (MI) in patients with MM in the real life.

Methods:

MM (ICD-O-3: 9732/3) and MI (ICD-10) diagnosed in the covered population between 2001 and 2017 were selected. Distributions by sex, age, treatment, evolution, and time to onset were determined. Incidence and relative risk were evaluated using STATA V15 software.

Results:

Over the study period, 741 cases of MM and 17747 cases of MI were diagnosed. We identified 31 common patients. The standardized incidence rate of MM with MI is in women 0.11/ per 100,000/y and in men 0.32/ per 100,000/y. The distribution of our cases is similar between those who had MI before their diagnosis of MM and those who had MI after diagnosis of MM. In our study, unlike the general population, the majority of our patients with MM presented non-ST segment elevation myocardial infarction (NSTEMI). In our population, 80% of patients with MM and MI had significantly higher prevalence of cardiovascular risk factors (age, high blood pressure, dyslipidaemia, smoking, diabetes) than patients with MM without MI.

Conclusions:

MI in patients with MM is a rare event. Patients with MM do not appear to have a significant excess risk of MI. MI does not appear to be specifically related to disease and treatment but to a combination of factors, the key ones being age and associated cardiovascular risk factors.

P_47

Incidence of hematological malignancies in Navarra (2002-2012)

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Biography:

She is the Director of the Navarra Cancer Registry. She is a member of the Spanish Network of Cancer Registries (REDECAN). She is an Investigator of a research group of Epidemiology and Public Health (CIBERESP) and investigator of Navarra's Institute for Health Research (IdisNa).

Introduction/Objective:

Haematological malignancies (HMs) are a heterogeneous group of diseases with a diverse aetiology. The Navarra Cancer Registry covers the region of Navarra in northern Spain and it is included in the Spanish Network of Cancer Registries (REDECAN). The aim of this study was to calculate the HMs incidence in Navarra, during the period 2002-2012, performed in the framework of a national REDECAN HMs study.

Methods:

The study included all incident HMs registered in the Navarra Cancer Registry for the period 2002-2012. Cases were classified following the WHO 2008 classification, and grouped according to the HAEMACARE scheme. We calculated quality indicators, crude (CR) and age-standardized incidence rates using the 2013 European standard population (ASRE) and the sex ratio.

Results:

2,893 HMs registered during eleven years of incidence in Navarra (on average 263 HMs per year). 96.7% were microscopically verified and 0.8% known only by death certificate.
70.6% were lymphoid neoplasm (LN) with an ASRE of 32.3 (95% confidence interval (CI) 30.9-33.7), which was lower than the Spain rate. Among them, 11.3% were Hodgkin lymphoma and 88.7% Non-Hodgkin lymphoma.

29.1% were myeloid neoplasm (MN) with ASRE of 13.3 (95% CI 12.4-14.2), being lower than the rate in Spain. Among them, 33.0% were myelodysplastic syndromes, 30.1% myeloproliferative neoplasms and 26.8% acute myeloid leukaemia and precursor related neoplasms.

The relative frequency of histiocytosis was 0.3% with ASRE of 0.15 (95% CI 0.05-0.24), being higher than the rate in Spain.
The sex ratio in Navarra was 1.47 for LN, 1.60 for MN, and 0.32 for histiocytosis.

NOS cases for HMs in Navarra was 2.5% lower than in Spain.

Conclusion:

Navarra rates were lower for LN and MN and higher for histiocytosis than rates in the overall REDECAN HMs study in Spain. This data could be a worthwhile information to the health services, and useful for planning future health services in the region.

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S-LAM project: initial therapeutic management of acute myeloblastic leukemia in three specialized registries areas in France

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Biography:

2019: Medical Doctor (University of Sciences, Techniques and Technologies of BAMAKO, Mali)
2020: Master Degree in Epidemiology and Risk Management (University Claude Bernard of Lyon 1)
2021-2023: PhD Student in Epidemiology (University of Burgundy).

Introduction:

Knowledge in the management of Acute Myeloblastic Leukemia (AML) in the general population is sparse. Access to curative treatment based on intensive chemotherapy and/or stem-cell transplantation seems to depend on several clinical, biological, molecular and social factors.

Objective:

The objective of this study is to describe the initial therapeutic management according to clinical, biological and molecular factors.

Materials and Methods:

All incident AML cases diagnosed from 2012 to 2016 in the 3 French geographical areas covered by a specialized hematological malignancy registry (Dijon, Basse-Normandie and Gironde; 3,625,400 inhabitants) were included. We described the distribution of patients according to different therapeutic modalities (palliative, supportive and curative) by sex, age group, cytogenetic prognosis risk group, and the de novo/secondary AML profile.

Results:

Overall, 1,040 AML incident cases were studied, with 529 men (51%) and 511 women (49%).

We excluded the 77 untreated individuals (7%; median age:77 years) among which 6 patients refused care and 41 (4%) died soon after diagnosis. Among the 922 treated individuals, treatment modalities were as follow: 501 (54%) received curative treatment (median age at diagnosis: 60 years); 262 (29%) palliative care (median age 81 years); and 159 (17%) supportive care (median age 85 years). According to the cytogenetic prognosis risk group in patients with curative treatment, 143 patients (28%) had a favorable prognosis, 270 (54%) had intermediate prognosis and 69 patients (14%) had an unfavorable cytogenetic and biomolecular profile (4% missing data). Among the 501 patients with curative treatment, 53% had only one therapeutic line, 30% two lines and the others more than 2 lines. After the first therapeutic line, 339 patients (68%) reached a complete remission and 133 patients (27%) were in treatment failure. Thereafter, 119 patients were transplanted in second line. All transplanted patients were under 75 years.

Discussion and conclusions:

Our first results show that only half of the patients received a curative treatment in first line. The next step of the project will be to identify specific curative therapeutic profile groups of patients in order to analyze associated factors for each group.

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S-LAM project: incidence of acute myeloblastic leukaemia subtypes in three specialized hematological malignancies registries in France

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Biography:

2019: Medical Doctors (University of Sciences, Techniques and Technologies of Bamako-MALI)
2020: Master Degree in epidemiology (University Claude Bernard of Lyon1-FRANCE)
2021 to 2023: PhD Student (University of Burgundy).

Abstract:

With the progress of cytogenetic and biomolecular analysis, the classification of subtypes has dramatically improved. The distribution and incidence of Acute Myeloblastic Leukaemia (AML) subtypes in the general population remain however poorly described.

The objective is to describe the distribution and the World Population Age-Standardized Incidence Rate (ASR) per 10^5 Person-Year according to AML subtypes.

All incident cases diagnosed from 2012 to 2016 in the three French geographical areas covered by a registry specialized in the hematological malignancy (Côte d'Or, Basse-Normandie, and Gironde; 3,625,400 inhabitants) were included. We collected cytogenetic and biomolecular data to classify the different AML subtypes based on the WHO 2008 classification and defined six AML subtypes according to the prognosis profile.

Overall, 1,040 AML incident cases (ASR=2.91 cases per 10^5 Person-Years) were included with a median age at diagnosis of 73 years, comprising 529 men (ASR=3.32) and 511 women (ASR=2.57); (sex ratio=1.29). The incident rate by AML subtypes were, respectively, in men and women: Therapies-related AML/myelodysplastic syndrome (T-AML) (N=244, ASR=0.61 and 0.51), AML with recurrent cytogenetic abnormalities (N=61, ASR=0.31 and 0.29), AML with myelodysplasia-related changes (N=124, ASR=0.34 and 0.20) and PML-RARA (N=52, ASR=0.28 and 0.17). Other AML subtypes were considered in AML others (N=427, ASR=1,55 and 1.17) and AML_NOS (N=132, ASR=0.22 and 0.23). When ignoring the priority given to the presence of cytogenetic abnormalities instead of T-AML and/or multilineage dysplasia profile, T-AML were found in 138 men (ASR=0.69) and 132 women (ASR=0.57), making a total of 22 patients (2.1%) among whom the secondary aspect is hidden by the classification. Similarly, there were 107 men (ASR=0.60) and 101 women (ASR=0.40) with multilineage dysplasia, of which 95 cases (9.13%) were classified otherwise. A total of 505 cases (49%) had molecular biology abnormalities, with 67 FLT3_ITD mutation cases (13%) and 64 NPM1 mutation cases without FLT3_ITD (13%).

Our study describes the incidence rate in AML subtypes usually not provided in national estimates. When avoiding the priority order used in the classification, the most frequent subtypes were t-AML and multilineage dysplasia. These high incidence rates combined with their well-known poor prognosis may raise the need for specific epidemiological surveillance.

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Is survival of major lymphoid malignancies subtypes still increasing in the French population?

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Biography:

A. Monnereau: Head of Haematological Malignancies registry of Gironde Co-director and Research Scientist: Epidemiology of Cancer and Environment Exposure (EPICENE) – Bordeaux Population Health, INSERM UMR-S, Bordeaux. Vice-president of the French Network of Cancer Registries (FRANCIM).

Introduction:

Lymphoid malignancies (LM) comprise 2/3 of all hematological malignancies with about 30,000 new cases in 2018 in France and improvement in incidence for most subtypes. Here, we update survival and trends for the major LM subtypes based on the most recent population-registry data.

Methods:

All LM subtypes diagnosed from either 1989 1995 2003 (depending on their recognition by WHO classification), to 2015 in a French metropolitan area covered by a population-based registry were included, (Follow-up June 30, 2018). 14 LM subtypes were defined according to the ICD-O-3 classification. Age-standardized net survival (SNS) at 1, 5 and 10 were estimated for all subtypes. Long-term survival at 20-year (only for HL and LL/CLL) was estimated using a novel approach based on multidimensional penalized splines to model simultaneously complex effect of covariables on the excess mortality rate allowing to visualize survival trends over age and year of diagnosis (R software, package survPen).

Results:

One half of incident LM diagnosed between 2010 and 2015 had a favorable prognosis (ie 5-year SNS higher than 75%) whereas the other half had a 5-year SNS comprised between 33 and 75%. Women 5-year SNS were slightly higher than men in most subtypes but less than 6 point of percentage. 5-year survival decreased with age for all LM subtypes with biggest gap between youngest and oldest for Hodgkin Lymphoma (HL: 50%) and Diffuse large B-cell lymphoma (DLBCL: 40%).

During the decade 2005 to 2015, the largest 5-year SNS improvements were observed for non-cutaneous T-cell lymphoma (T-NHL-NC: +18%), Multiple Myeloma/Plasmocytoma (MM/P: +12%), Follicular lymphoma (FL: +10%) and Mantle-cell lymphoma (MCL: +10%). Interestingly, most of these improvements were observed in elderly, particularly for FL, HL whereas improvements were observed in youngsters for MM/P and at the same magnitude regardless of age for DLBCL.

Conclusion:

Despite relatively high survival probability in major LM subtypes, survival trends in a recent period of time (2005-2015) show positives improvements particularly in elderly in LM subtypes that were usually considered as moderate or poor prognosis like MM/P. On other hand, survival didn't improve significantly in various subtypes like HL, Cutaneous T-cell NHL, Marginal Zone Lymphoma.

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RHESOU (Hérault Registry specialized in Onco-Urology) 1st French registry: 2 years of experience (2017-2018)

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Biography:

Francois Iborra, a surgeon urologist, created a specialized registry in collaboration with Brigitte Trétarre, Herault Cancer Registry director and epidemiologist. RHESOU is opened to all urologic corporations (urologists, pathologists, oncologists, radiotherapists) and can permit to make specific requests for research projects.

Introduction:

The Hérault is a department in the south of France with more than 1.1 million inhabitants. For more than 35 years, there has been a general cancer registry in this department where more than 9,000 new tumors are registered every year. Faced with the increasing incidence of urological cancers, we have set up a specialized registry (RHESOU) of urological cancers diagnosed since 01/01/2017 in people residing in the Hérault in order to know the exact weight and management of these cancers in the department.

Material and methods:

Cases included are all incident cancers of the urinary tract of men and women and of the male genital organs in persons over 18 years of age, diagnosed since 01/01/2017. All the variables collected for each organ are extracted from the recommendations of the Cancer Committee of the French Association of Urology (CCAFU) 2018-2020 and from RHESOU's own objectives.

Results:

In 2017 and 2018, RHESOU collected more than 3,800 cases of urological and male genital tumors, including 2,045 prostate cancers, 1,164 bladder tumors (TVNIM and TVIM), 118 upper excretory tract tumors, 452 kidney cancers, 70 testicular cancers, 14 penile cancers and 2 urethral cancers. For each location, we can describe the tumor specificities, the management and the course of care of each patient. All the results are presented in the form of tables and specific requests are possible.

Conclusion:

RHESOU complies with epidemiological quality criteria and will make it possible to answer questions related to prognostic factors, clinic, treatment and follow-up in order to optimize patient management through studies adapted to these issues. Economic clinical and medical trials may be added to this cohort.

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Cancer mapping in Tarragona, Catalonia, Spain: Comparison of models for small areas

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Biography:

Laura Aixalà Perelló is a statistician collaborator of the Cancer Epidemiology and Prevention Service of Sant Joan Reus University Hospital. She graduated in Mathematics with a specialization in statistics from the University of Barcelona in 2020. She is currently studying for a Master in Biostatistics at the University of Valencia.

Objectives:

Cancer mapping is a visual representation of geographical distribution of the incidence or mortality of different types of cancer that can help to create hypotheses on their causes. The aim of this study is to investigate the most appropriate method to create cancer risk maps of Tarragona province, by using its 526 census sections as small areas, for both, frequent and infrequent, cancers.

Methods:

2000-2014 incidence data for six different cancers, selected for its various incidence levels, were obtained from Tarragona Cancer Registry. For men: lung, stomach and oesophagus cancer. Women: Breast, oesophagus and larynx cancer. The relative risk value associated at each census section was measured by the smoothed value of the standardized incident ratio (SIR), calculated through the quotient of the smoothed observed cases between the expected cases based on a standard population. Observed cases without noise were calculated by the models Besag, York, Mollié (BYM), and the weighted sum of spatial priors from Lawson and Clark (LC). The posterior distributions of the BYM model parameters have been obtained by three different methods: first, an approximation method using the R package INLA, and then, two simulation methods using the R package CARBayes and the software OpenBUGS (R package R2WinBUGS). The posterior distributions of the parameters of the LC model have only been computed by the OpenBUGS software (R2WinBUGS).

Results:

The risk values obtained by all methods and models in frequent cancers (lung, breast) have a high overlap. A smaller agreement among the risk values was found in infrequent tumours: INLA over-smooths the values of the SIR variable, and the maps resulting from the LC model shows more extreme risk values than all the maps resulting from the combinations of simulation methods and BYM model.

Conclusions:

The three combinations of both models with both simulation methods allow the detection of the same risk areas for all cancers even if there exist differences between the relative risk values obtained from each of them.

P_53

Treatment patterns and survival outcomes of chronic lymphocytic leukaemia in Portugal: results from a population-based cancer registry cohort study

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Biography:

Master degree in pharmaceutical sciencies; postgraduate courses in epidemiology, pharmacoepidemiology and medical literature evaluation. Researcher at National Cancer Registry, developing projects in clinical epidemiology, therapeutic effectiveness and health outcomes research.

Methods:

A population-based historical cohort study was conducted. Cases of interest were identified through the South Region Cancer Registry (ROR-Sul) database and additional data sources. Patients aged ≥18 years, with a confirmed diagnosis of CLL or small lymphocytic lymphoma between January 1st, 2013 and December 31st, 2014 were included. Patients were followed-up until death or cut-off date (December 31st, 2019). Treatment patterns characterisation was restricted to first-line therapy and time to first-treatment (TTFT), progression-free survival (PFS) and overall survival (OS) were calculated recurring to Kaplan-Meier estimates.

Results:

A total of 496 patients were included and median follow-up time was 5.46 years. Median age was 71 years, the sex distribution (male/female ratio) was 1.40 and 75.85% of patients were diagnosed in Binet stage A. During the study period, 188 patients received first-line treatment and the 5-year TTFT rate was 70.53% (95%CI 66.31-74.34). In patients aged<65 years (n=55), the most utilised regimens were rituximab+/-fludarabine+/-cyclophosphamide (RFC) (n=32; 58.18%), chlorambucil+/-prednisolone (CP) (n=6; 10.91%) and rituximab, cyclophosphamide, doxorubicin, vincristine and prednisolone (R-CHOP) (n=4; 7.27%). With respect to patients aged≥65 years (n=133), the most common treatment options were CP (n=43; 32.33%), RFC (n=22; 16.54%) and rituximab, cyclophosphamide, vincristine and prednisolone (R-CVP) (n=21; 15.79%). Median PFS was 5.03 years (95%CI 3.09-NR), 1.03 years (95%CI 0.86-1.30) and 2.05 years (95%CI 1.30-3.40) for RFC, CP and R-CVP, respectively. Median OS was 3.28 years (95%CI 1.43-3.87) and 5.01 (2.65-NR) for CP and R-CVP, respectively, and was not reached for RFC.

Conclusions:

We observed a non-universal use of immunochemotherapy and the utilisation of vincristine and anthracycline-containing regimens, which was not expected; the reasons underlying these patterns will be studied in subsequent analysis. PFS results were similar to those reported by other authors; a longer follow-up is needed to have more robust results for OS.

P_54

Strategies in the search and data collection of the Entre Rios tumor registry (RPPTER) to establish the stage and vital status of breast cancer patients for the period 2008-2012

Strategies In The Search And Data Collection Of The Entre Rios Tumor Registry (rppter) To Establish The Stage And Vital Status Of Breast Cancer Patients For The Period 2008-2012.
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Biography:

"Ad honorem" coordinator of the RPPTER.
Anatomopathology Physician.
Relative survival trends for colon, breast and cervical cancer in Argentina´s central region. Period 2004-2010. IACR 2016. Marruecos.
Collaborator "Global surveillance of cancer survival 1995–2009" (CONCORD2)".
IARC. 2017 Summer School "Cancer Survival Methods for Cancer Registries" Lyon, Francia.

Introduction:

Population based cancer registries (PBCR) are a valuable source of information about cancer incidence, mortality, and survival within a defined catchment area. The value of a PBCR and its ability to carry out on cancer control activities rely on the quality of their data. The main strategy used for improving the data quality was to apply for a research scholarship of the Argentinean National Cancer Institute with the project “”Survival in breast cancer (BC) among the Essential TNM stages in the province of Entre Ríos during the period 2008-2012””. The aim of this paper is to enumerate the different approaches conducted by the RPPTER to collect TNM and vital status information.

Materials and methods:

Strategies were implemented with the goal to determine the BC's stage and the patient's vital status. Those approaches included: give training to the registers through theoretical-practical meetings; review pathological reports, medical and oncological records, and imaging and radiotherapy centers records to establish BC stages; consult surgeons and gynecologists; check the patient's vital status on the electoral rolls and on government databases; check patient's data, such as name, surname, address and date of birth, on government databases.

Results:

The study included a total of 2684 BC cases, 2143 cases out of that total (80.4%) could be staged according to essential TNM. Also, 98 death certificate only (DCO) cases could be taken out of that category with the information provided during the multidisciplinary collaborations and reviewing medical records.

Conclusions:

Completeness and accuracy of cancer data can be achieved with an active search, but this can be challenging on PBCR in low- and middle-income countries for the lack of resources (human and financial). Communication with new information sources, the involvement of the implicated professionals in the BC's diagnosis process and the training of the registrars, regarding not only TNM but also on where and how to find information in the medical records, were valuable strategies on the data collection process.

P_55

Specification for electronic archiving of Cancer Registry Data – CEF eArchiving Building Block (E-ARK3 project)

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Biography:

MD, specialist of public health, currently working as an epidemiologist at Slovenian Cancer Registry, Institute of Oncology Ljubljana, with more than ten years of experience also with other health databases. She is a member of Institute's Medical Ethical Committee and deputy coordinator of Slovenian National Cancer Control Plan.

Background:

Population based cancer registries (PBCR) all over the world systematically gather data on the occurrence, characteristics, and outcome of cancer patients in underlying population. Main purpose of cancer registries is to monitor and control cancer in the community. The data is used by PBCRs themselves, numerous other institutions (European and state agencies, international and academic institutes) and individual researchers. Therefore, data gathered, processed and stored by the PBCRs is considered as important health data and thus is eligible for archiving in several countries.

The aim of the eArchiving Building Block (and E-ARK3 project within, which will end in October 2021) is to provide the specifications, reference software, training and service desk support for digital archiving. Since cancer data is also relevant on international level, common rules and specification details for electronic archiving have been recognised as a priority at the European level, leading toward development of PBCR data archiving specification (eHealth2 specification). The aim of eHealth2 specification is to define structure and content of cancer registry data sets that are acquired by different aggregators and need to be archived.

Outputs:

The specification is based on international standards (e.g. OAIS) for transmitting, describing and preserving digital data. It defines an information package that aims to ensure long-term usability and authentic interpretation of the content and context of the data exported from the PBCRs. The package structure is divided into: representations (including data exported from the PBCR and additional information requested from different data aggregators), documentation (defining the export and created during the export), and metadata (descriptive and for preservations).

The specifications will be supplemented with the guidelines based on real examples, prepared in collaboration with Joint Research Centre (JRC), Slovenian and Norwegian PBCR.

Public health implications:

The specification is designed to be used for the transfer from PBCRs to archives as well as for records and aggregated data exchange between different international aggregators.

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Feasability of the implementation of a monitoring system of cancer incidence among employees in France

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Biography:

Epidemiologist at the Environmental and occupational Health divison of Santé Publique France, the French National Public Health Agency. In charge of the epidemiological surveillance of occupational cancers.

Background:

Occupational exposure to carcinogens is estimated to be one of the most important causes of cancer in France. Because this problem leads to major issues in terms of prevention, for recognition of occupational diseases and for reparation of the prejudice of occupational disease, a monitoring system of cancer among employees is needed in France.

Objectives:

This study aims at evaluating the feasibility of the implementation of a monitoring system of incidence of occupational cancer based on matching cases from cancer registries to occupational data issued to administrative data from Caisse nationale d’assurance vieillesse (CNAV), a public administration handling retirement pensions among employees.

Method:

A pilot study was performed using cancer data during 2010 to 2014 from two cancer registries: Lille area, and Doubs et territoire de Belfort (n=37 516). Data were matched with the CNAV database using first name, last name, sex and date and city of birth, to identify occupations of patients diagnosed with cancer. In parallel, data for 580 000 controls were selected with frequency-matched by sex, age, year and registry in CNAV databases to conduct case-controls studies.

Results:

Among cases, 36 365 incident cases (96.9%) were matched . Among occupational data, only activity sectors at the diagnosis and for the entire career can be retrieved. Profession was not available for the pilot study due to an issue in data collection for years 2009 to 2011. Among the cases, an employer identification number was filled out for 585 012 persons-year since 1972 and activity sector can be retrieved for 366 941 persons-year (67%) from this identification number. After 1999, we can clearly see an improvement in data collection as this proportion was 96% (138 551 out of 144 780 persons-year).

Conclusion:

Using CNAV data in order to determine profession and activity sectors for employees seems to be an effective way to collect occupational data that were not available in cancer registries databases, especially since 1999. The same method will be applied repeatedly to others cancer registries in France in order to monitor the incidence of cancers by occupational activity sector and profession.

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Estimating disease-free survival and recurrence in breast cancer patients

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Biography:

Epidemiologist and Biostatistician. Retired, former director of Cancer Epidemiology Unit, Istituto Superiore di Sanità, Italy.

Introduction:

Data on recurrence are hard to be collected by population-based cancer registries (CRs). Here, we present indirect estimates of breast cancer (BC) disease-free survival and proportion of BC patients in recurrence.

Method:

We extended to competing risk settings an indirect method already applied to estimate disease-free BC survival in absence of other causes of death. Cure survival models are fitted to CRs net survival estimates. Disease-free survival is then calculated for the uncured by “removing”, from their net survival, the survival of metastatic patients. Risk of dying of competing causes is taken from the general population life tables. We assume that: i) mortality hazards for cancer and for other causes are each other independent, ii) cancer death of non-metastatic patients can only occur after recurrence and, iii) excess hazard of patients in recurrence is proportional to excess hazard of patients metastatic at diagnosis. Then, the probability is estimated for each patient to be at any given time since diagnosis in one of four exhaustive and mutually exclusive states:

1. Alive and recurrence-free
2. Alive and in recurrence
3. Dead of the diagnosed cancer
4. Dead of other causes, whether before or after cancer recurrence

Results:

Data from 688,950 BC patients diagnosed in SEER registries areas in 2000-2015, aged 15-84, were analysed. The estimated probabilities of being, at 10 years since diagnosis: alive and recurrence-free, in recurrence, died of cancer and died of other causes were, respectively, 69.5%, 2.1%, 14.5%, and 13.9%. For patients at stage III at diagnosis, the corresponding estimates were 45.5%, 5.3%, 40.4%, and 8.7% while, for those at stage II, they were 71.2%, 2.6%, 13.4% and 12.8%, respectively. Patients aged <60 at diagnosis had the highest proportion of cases in recurrence (2.7%) and of those alive disease-free (77.5%), while the oldest ones had the highest probability of death for competing causes (44.5%). Longer follow-up was associated to decreasing proportions of patients in recurrence and to increasing proportions of those dead, mostly of competing causes.

Discussion:

The method is based on stage data available to many European CRs. It can be proposed for a collaborative GRELL initiative.

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The first population-based cancer registry implemented in Mexico

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Biography:

Since 2015, Dr. Méndez has been focused on the implementation of the first Population-Based Cancer Registry in Mexico, located in Merida city at the Yucatan Peninsula in the southeast of the country. She is a Scientific Research at the Social Security National Institute.

Background:

During the last four decades Mexico has been made several efforts to implement and consolidate cancer registries. Since 2014, a research initiative arose to create a cancer registry in Merida city in the southeast of the country with National Council for Science and Technology funds were raised. Aim: To analyze results from the five first years of the PBCR-Merida.

Methods:

Descriptive study, the PBCR started in January 2016 with retrospective collection cases since 2015 from Merida and metropolitan area, in the Yucatan peninsula with 908,536 inhabitants. Data collection are active and passive in 114 public and private establishment. Information is handled by the national and international guidelines for data collection, coding and storage. Cases of non-melanoma skin cancer are no collected.Coding is done with ICD-O-3 and captured/validated on CanReg5 software. ASR/100,000hab was estimated by direct method with world standard population.

Results:

A total of 6,881 new cancer cases were registered during January-2015 to Dec-2019, 2747 (ASR120.1/100,000hab) males and females 4134 (ASR149.7/100,000hab), most common diagnosis were histological examination 85.9%, clinical diagnosis 6.7%, and 7.4% Death Certificate Only. Main tumors affecting the male population were: prostate cancer ASR26.8, lymphoma 10.1, colorectal 9.6, liver 8.2 and kidney 7.4. Whereas, in female breast cancer ASR49.1, cervix uteri 16.3, corpus uteri 11.5, colorectal 7.9 and ovary 7.6. Childhood cancer (0-18yr) represent 3.5% of all cancer, 56.3% boys and 43.7% girls. The main pediatric cancer distribution by ICCC diagnostic group are leukemias, myeloproliferative & myelodysplastic with 112 cases (47%), lymphomas & reticuloendothelial neoplasms 27 (11.3%) and malignant bone tumors 26 (10.9%).

Conclusions:

The implementation of the first PBCR in Mexico has been an unprecedented challenge with the joint effort of the main public health care providers both local and national authorities; as well as the technical support of IARC. Preliminary PBCR-Merida results motivated the approval of the Cancer Registry Law by Congress in 2017 and provided important input to guide the establishment of the National Cancer Registry Network. It's necessary to continue the coverage, completeness and quality of the registry. The distribution and ranking of some cancers are similar to local and regional reports.

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Adherence to clinical practice guidelines and colorectal cancer survival: A retrospective high-resolution population-based study in Spain

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Biography:

Dafina Petrova is a postdoctoral researcher in the CIBER of Epidemiology and Public Health and the Cancer Registry of Granada based at the Andalusian School of Public Health in Granada, Spain.

Background:

Colorectal cancer (CRC) is the third most common cancer worldwide. Population-based, high-resolution studies are essential for the continuous evaluation and updating of diagnosis and treatment standards. This study aimed to assess adherence to clinical practice guidelines and investigate its relationship with survival.

Method:

We conducted a retrospective high-resolution population-based study of 1050 incident CRC cases from the cancer registries of Granada and Girona, with a 5-year follow-up. We recorded clinical, diagnostic, and treatment-related information and assessed adherence to nine quality indicators of the relevant CRC guidelines. We calculated adherence for each indicator and overall adherence which was defined as adherence on at least 75% of the indicators that apply to each patient. To analyze the relationship between adherence and survival, we calculated observed and net survival at 1,3, and 5 years since the diagnosis of colorectal cancer and computed the relative excess risk of death (RER) as a function of adherence to the quality indicators.

Results:

Overall adherence (on at least 75% of the indicators) significantly reduced the excess risk of death, RER=0.35 [95% CI 0.28-0.45]. This result was confirmed in an analysis restricted only in patients diagnosed with stage II or III disease (RER=0.41, 95% CI 0.25-0.67). Analysis of the separate indicators showed that patients for whom complementary imaging tests were requested had lower mortality risk, RER=0.58 [95% CI 0.46-0.73], as did patients with stage III colon cancer who underwent adjuvant chemotherapy, RER=0.33, [95% CI 0.16-0.70]. Adhering to guidelines regarding the number of days elapsed until the start of some treatments was not associated with mortality risk.

Conclusions:

Adherence to clinical practice guidelines can reduce the excess risk of dying from CRC by 55%-72%. Ordering complementary imagining tests that improve staging and treatment choice for all CRC patients and adjuvant chemotherapy for stage III colon cancer patients could be especially important. In contrast, controlled delays in starting some treatments appear not to influence mortality risk of CRC patients.

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P_60

Compliance with clinical guidelines for breast cancer management in France

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Biography:

Epidemiologist. MD.

Background:

The European Society of Breast Cancer Specialists (EUSOMA), has defined quality indicators (QIs) for breast cancer (BC) care to assess compliance to current care standards. These QIs are a useful tool to evaluate care organizations. Only population-based studies are able to assess health system performance in "real-life" situations. The French health system presents some distinguishing features: full medical coverage for all patients, the importance of private sector which is accessible to all insured patients, complete freedom of provider choice and no limitation of utilization of services. This population-based study aimed to describe compliance with several EUSOMA QIs overall and according to patient and organizational factors in France.

Methods:

1 560 adult women with primary invasive non-metastatic BC diagnosed in 2012 were randomly selected among all incident BC from cancer registries. Twelve EUSOMA QIs were selected regarding diagnosis, treatment and staging.

Results:

The minimum standard as proposed by EUSOMA was met for nine QIs related to pre-operative definitive diagnosis, multidisciplinary discussion and treatment (single surgery, breast conserving surgery (BCS) for small BC (<3cm), radiotherapy after BCS or mastectomy for regional BC (pN≥2a), hormonotherapy, adjuvant chemotherapy and trastuzumab). Low compliance was observed for sentinel lymph node biopsy (SLNB) and staging imaging. Adherence to guidelines was usually lower in older patients and in patients with comorbidities. Compliance also varied by area of residence (for single surgery, BCS, SLNB, hormonotherapy and staging imaging for stages I-II) and by place of first treatment (for pre-operative diagnosis, BCS, SLNB and staging tests for stages I-II).

Conclusion:

This study provides the first current, comprehensive overview of BC quality care at a population level in France. The guidelines were correctly applied for the diagnosis and treatment of BC, although staging practices (SLNB, imaging) can be improved. These results highlight the good implementation of clinical guidelines in France and the quality of French health system guaranteeing free and universal access to cancer care. These results highlight the need for continuous measurement of adherence to guidelines to improve BC care and reduce heterogeneicity of practices, particularly according to age and place of first treatment.

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Study of the completeness of the presentation to a multidisciplinary team meeting for colon cancer in a French area: a collaborative study

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Biography:

Mélanie Cariou, has been working at the Digestive Cancer Registry of Finistère since 2007 as coordinator and enjoys working on issues related to prevention and improving patient care.

Background:

With approximately 27,800 new cases in 2018 in France, colon cancer is a major public health problem. Survival has increased in recent years due to advances in treatment, screening and multidisciplinary team meetings (MDT) implementation.

Improvements, especially in the organisation of the MDT, can still be made.

The objectives of this work were to identify patients with colon adenocarcinoma whose case was not presented to MDT and to analyze the reasons for this non-presentation.

Patients and methods:

The MDT database managed by the Oncobretagne Regional Cancer network and the Digestive Cancer Registry of Finistère database were crossed from 2014 to 2016. Two groups of patients were identified: patients discussed in the MDT (MDT+) versus others (MDT-). A MDT+/1 MDT- match on gender, age and cancer location (known risk factors) was performed. File audits were performed to complete the database with details of diagnosis, tumor characteristics, treatment modalities and explanations for MDT non-presentation. Stastistical analyses were performed by conditional logistic regression. Odds Ratios were presented with a 95% IC.

Results:

Between 2014 and 2016, 1,616 adenocarcinomas were diagnosed, including 332 MDT- and 1,284 MDT+ (79.5%). The cases not presented in MDT concerned older patients (78.6 ± 11.9 years versus 71.6 ± 11.2 years, $p<0.0001$).

After matching, factors associated with MDT non-presentation were occurrence of early death (OR 12.8; [5.4-30.3]), lack of histological evidence of cancer (OR 3.5; [1.3-9.6]) and ECOG status (OR 2.5; [1.4-4.5]). Factors associated with presentation in MDT were advanced-stages, III (OR 0.2; [0.1-0.4]) and IV (OR 0.1; [0.0-0.4]) and surgery (OR 0.3; [0.2-0.7]). The European Deprivation Index was non-significant.

The most frequent reasons for non-presentation in MDT were advanced age and poor general condition (22.6%), superficial tumors (20.5%), presentation in another collegial meeting (13.0%) and patient refusal (9.9%).

Conclusion:

More than 20% of colon cancer patient were not presented in MDT. Progress is still needed, especially in the elderly, disabled, comorbid and early stages. The emergence of MDT dedicated to the management of superficial tumors of the digestive tract should help improve the presentation rate.

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Socioeconomic Inequalities in Colorectal, Lung, and Breast Cancer Incidence in Spain: A multilevel Population-based Study

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Biography:

Daniel Redondo Sánchez is a mathematician (BSc, MSc) and data scientist (MSc) specialized in Epidemiology, currently studying the impact of socioeconomic inequalities in cancer outcomes.

Background:

Socioeconomic inequalities in cancer incidence are not well documented in Southern Europe. We aim to study the association between socioeconomic status (SES) and incidence for colorectal, lung, and breast cancers in Spain.

Methods:

We conducted a multilevel study using data from Spanish population-based cancer registries. We included incident cancer cases diagnosed for the period 2010-2013 in nine Spanish provinces. We used Poisson mixed-effects models, including the census tract as a random intercept, to derive cancer incidence rate ratios by SES adjusted for age and calendar year. We produced and mapped the cancer incidence smoothed rates adjusted by SES and age.

Results:

Male adults with the lowest SES compared to those with the highest SES showed weak evidence of being at increased risk of lung cancer (risk ratio -RR-: 1.18 95% CI: 0.94–1.46) but showed moderate evidence of being at reduced risk of colorectal cancer (RR: 0.84, 95% CI: 0.74–0.97). Female adults with the lowest SES compared to those with the highest SES showed strong evidence of lower breast cancer incidence with 24% decreased risk (RR: 0.76, 95% CI: 0.68–0.85). Among females, we did not find evidence of an association between SES and lung or colorectal cancer.

Conclusion:

The associations found between SES and cancer incidence in Spain are consistent with those obtained in other European countries. Understanding the reasons behind the association between cancer incidence and SES could help develop appropriate public health programs to promote health and reduce socioeconomic inequalities in cancer incidence in Spain.

P_63

Incidence of Gastric Cancer and Human Development Index in Brazil

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Biography:

Pharmacist, professor at the University of Vale do Itajaí (UNIVALI), SC – Brazil and a PhD student at the graduate course Group of Epidemiology and Statistics, AC Camargo Cancer Center, São Paulo / SP, Brazil.

Background:

The incidence of gastric cancer is declining in most countries in the world and may be associated with an increase in the level of human development. The objective is to analyze the incidence and trends of gastric cancer in Brazilian capitals and the correlation with and human development index that occurred in the period.

Methods:

The incidence data were extracted from the Population-Based Cancer Registries (PBCRs) of Brazil, available on the INCA database (1988-2017), under ICD 10 C-16 (malignant neoplasms of the stomach). Crude and standardized incidence rates were estimated. For trend analysis, was applied the Joinpoint Regression Program and for correlation Pearson test.

Results:

The incidence rates of gastric cancer in Brazil ranged from 22 to 89/100,000 for males and from 8 to 50/100,000 in female, incidence rates were higher in males. Of the 21 PBCRs analyzed, we observed a trend of stable incidence in most of country, with 8 PBCR showing a reduction in incidence for men and 5 for women. The highest incidence rates occurred in Belém for men and Boa vista for women both in North region of Brazil. All capitals increased the HDI in 2010 compared to 2000, with an increase of 0.11±0.04 ranging from 0.061 in Porto Alegre to 0.254 in Boa vista, which presented the best evolution since 2000. It was observed an inverse correlation between the HDI (2010) and the gastric cancer incidence rate for women in Brazil. This study showed that the highest incident rates of GC were observed in regions with the lowest HDI, such as the north region (0.667).

Conclusion:

In Brazil gastric cancer incidence remained stable in the studied period there was an increase in HDI in all country but this improvement did not lead to a decrease in the gastric cancer incidence.

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Waiting time for diagnosis and treatment for breast cancer in Brazil

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Biography:

Nurse from the Federal University of Juiz de Fora. Specialist in Primary Health Care. Specialist in Permanent Health Education. Master in Public Health. PhD Student at Federal University of Juiz de Fora. Has experience in cancer prevention, women`s health, functional health literacy and cancer epidemiology.

Introduction:

The extended waiting time for diagnosis and treatment of breast cancer have a critical impact on stage at diagnosis, treatment, prognosis, and survival and can be consider an indicator of accessibility to health care and inequalities in patient management. Efforts to reduce waiting time has become a priority in public health policies.

Objective:

The aim of this study was to analyze the waiting time for the diagnosis and treatment of breast cancer and factors associated.

Methods:

We conducted a retrospective cohort study of women with breast cancer from hospital-based cancer registries at a reference service for public and private oncology care in Brazil. Data were collected form medical records of 477 women diagnosed with breast cancer between 2014 and 2016. The waiting times for diagnosis and treatment were estimated using the Kaplan-Meier method and its determinants were identified through Cox's proportional regression model, computing the hazard ratios, with Confidence Interval of 95% and $p \leq 0.05$.

Results:

Most women were diagnosed between 50 and 69 years old (51.4%) and was assisted by the public health system (60.6%). About 20% of women were diagnosed within 30 days, with a median waiting time for diagnosis of 70 days, which was shorter for women whose disease diagnosis was based on screening tests and who were diagnosed in early stages of disease. Approximately 80% of women started treatment within 60 days after diagnosis, with a median waiting time for therapy of 32 days, which was less for women who were assisted by private assistance, with a high level of education and who were diagnosed in early stages of disease.

Conclusions:

The factors associated with extended waiting time on cancer assistance reflects inequalities in the diagnosis and treatment of breast cancer in Brazil. That can be minimized by increasing the coverage of the Family Health Strategy; intensification of screening tests and early detection; improvement of referral and counter-referral of patients at different levels of care and strengthening of diagnostic investigation and treatment services. Hospital-based cancer registries can contribute to the evaluation of the performance of the health service network, especially regarding the application of guidelines.

P_65

Influence of the rural-urban covariate on the lung cancer incidence risk in the province of Tarragona, Catalonia, Spain between 2000 and 2014

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Biography:

Dídac Llop is a biologist specialized in the field of biostatistics. He completed a master's degree in Statistics and Operations Research (Universitat Politècnica de Catalunya) and he is currently working in the field of spatial epidemiology, where he is managing cancer data.

Objective:

There are several evidences that lung cancer risk tends to be higher in urban areas more than in rural ones, probably due to higher exposure to risk factors such as smoking, air pollution, etc. Our aim is to adjust the rural-urban covariate in different ways, using the Bayesian Besag, York and Mollié (BYM) model to evaluate if there is any statistical evidence on this relationship in lung cancer incidence in the province of Tarragona, Spain.

Methods:

The incidence lung cancer data for the province of Tarragona between 2000 and 2014, provided by the Tarragona Cancer Registry, was used.

We considered the rural-urban covariate in two different ways using the population of each municipality in 2007. In the first one, we have considered as rural municipalities those with less than 2,500 inhabitants, and as urban the other ones. In the second one, we have considered four categories: small rural municipalities (<2,500), big rural municipalities (between 2,500 and 9,999), small urban municipalities (between 10,000 and 49,999) and big urban municipalities (≥50,000). All of these categories were included in the BYM model as dummy variables. To choose which one best fits the data, we used the DIC (deviance information criteria) goodness-of-fit parameter.

Results:

In men, the BYM model that included the covariate with four categories was the one that fitted better. Compared to the baseline category (small rural municipalities), the three other categories were statistically significant. The coefficients, in terms of relative risk were: big rural municipalities 1.23 (1.09-1.38), small urban municipalities 1.39 (1.22-1.59) and big urban municipalities 1.54 (1.26-1.86).

In women, the model that considered the covariate with two categories was the one that fitted better. Rural municipalities category was considered the baseline. In this case, the urban municipalities category was not statistically significant (1.18; 0.94 – 1.47).

Conclusions:

In lung cancer in men, we observed that the larger the population of a municipality, the higher the risk of incidence.

In women, despite presenting a relative risk greater than 1, we cannot conclude that there is statistical association among a larger population and a greater incidence risk.

P_66

Socioeconomic determinants of cervical cancer mortality in Pasto – Colombia 2007-2016

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Biography:

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Objective:

During the last decades, theoretical models have been proposed to study determinants of cervical cancer mortality. However, no studies of this type have been carried out in Pasto-Colombia. This study analyzes the socioeconomic determinants related to CC mortality in women from Pasto, in the 2007-2016 period.

Methodology:

A cross-sectional observational study was carried out on women (N=173) from Pasto-Colombia, who died due to cervical cancer during the 2007-2016. Information was obtained from the Cancer Registry of Pasto. The effect of socioeconomic conditions (area of residence, health affiliation regime, stratum, employment, level of education) on mortality due to CC was estimated with the negative binomial regression model and adjusted for age.

Results:

The global death rate due to CC was 7.93 deaths per 100,000 women/year. There were higher mortality rates in women of low socioeconomic status (12.0 deaths per 100,000 women/year), with a subsidized regime (10.0 deaths per 100,000 women/year), with low educational level (10.6 deaths per 100,000 women/year), who were unemployed (9.19 deaths per 100,000 women/year), living in rural areas (10.45 deaths per 100,000 women/year), with a partner (11.2 deaths per 100,000 women/year), and who were over 60 years of age (36.1 deaths per 100,000 women/year). The risk of death due to CC is higher in women of low socioeconomic status (RR=66.71 95%CI 11.64;382.28) and are over 60 years (RR=11.68 95% CI 1.04; 66.9), compared to those of high socioeconomic status and women aged between 15 and 44 years old.

Conclusion:

It is necessary to focus public health policies towards women from vulnerable socioeconomic conditions and are over 60 years of age through education, detection and timely treatment of the disease to reduce mortality from CC cancer in Pasto-Colombia.

P_67

How does social environment affect survival in patients with breast or gynecological cancer in France?

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Biography:

Marie Poiseuil is in the third year of her thesis at the General Cancer Registry of the Gironde. She is working mainly on women with breast cancer and participation in breast cancer screening.

Background:

Several studies have investigated the association between net survival and social inequalities in people with cancer, highlighting a varying influence of deprivation depending on the type of cancer studied. However, few of these studies have accounted for the effect of social inequalities over the follow-up period, and/or according to the age of the patients. Thus, using recent and more relevant statistical models, we investigated the effect of social environment on net survival in women with breast or gynecological cancer in France.

Method:

Data were obtained from population-based cancer registries in France. We included women diagnosed with breast or gynecological cancer between 2006 and 2009. We used the European Deprivation Index (EDI), an aggregated index, to define the social environment of the women include. Analyses were conducted through flexible excess mortality hazard models using multidimensional penalized splines.

Results:

A significant effect of the EDI on net survival was observed in women with breast cancer throughout the follow-up period, and particularly at 1.5 years of follow-up in women with cervical cancer. In women with corpus uteri or ovarian cancer, the effect of social environment on net survival was less pronounced.

Conclusion:

These results highlight the impact of the social environment on net survival in women with breast or gynecological cancer in France and identify the follow-up periods during which social environment may have a particular influence. These findings could help investigate targeted actions for each cancer type, particularly in the most deprived areas, at the time of diagnosis and during follow-up.

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Cancer survival trends in adult patients in Spain, 2002–2013: a population-based study of the Spanish Network of Cancer Registries (REDECAN)

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Biography:

She is a Medical Doctor, PhD, Specialist in Preventive Medicine and Public Health. She works in the Navarra Cancer Registry (Spain), and one of her priority research topics is cancer epidemiology.

Objectives:

Cancer survival is a key indicator for monitoring progress in cancer control. Population-based cancer survival estimates provide valuable insights into the effectiveness of cancer services and can reflect the prospects of cure. We aimed to assess survival of adult cancer patients and its recent trends in Spain.

Methods:

We used data from thirteen Spanish population-based cancer registries included in the REDECAN network, covering 26% of the Spanish population. Individual records of 601,250 adults (15–99 years) diagnosed with primary cancer during two periods, 2002–2007 and 2008–2013, and followed up to 2015 were included. We built area-specific life tables to control for background mortality. For thirty groups of cancers, 5-year net survival (5y-NS) was estimated through the Pohar-Perme method, by sex, age group and period of diagnosis. We used the International Cancer Survival Standard weights to calculate age-standardized 5y-NS estimates.

Results:

The 5y-NS for patients diagnosed in the last period ranged from 7.2% (pancreas) to 89.8% (prostate) in men, and from 10.0% (pancreas) to 93.1% (thyroid) in women. Over the two periods, the 5y-NS improved for all cancers combined and for several cancer groups. Among the most common cancers, there were major survival increases in the 5y-NS for colon (from 57.5% to 63.1% in men and from 59.8% to 63.9% in women) and rectum cancers (from 55.8% to 60.4% in men and from 58.1% to 62.7% in women). Significant 5y-NS improvements were also observed for prostate cancer (from 87.9% to 89.8%) and female breast cancer (from 83.2% to 85.5%). Lung cancer 5y-NS increased in men (from 11.2% to 12.7%), while remained unchanged in women, although with higher values than in men (17.6%).

Conclusions:

Cancer survival among adults in Spain varied widely according to the type of cancer. 5y-NS improved for several types of cancer across 2002–2013. Among the most frequent cancers, the greatest improvements were observed in colon and rectum cancers (4 to 6 percentage point increases). These findings may be explained by advances in cancer management, including earlier diagnosis and treatment. The poor prognosis still observed in some tobacco-related cancers emphasizes the need to reinforce preventive strategies.

P_69

Survival of women with breast and gynaecologic cancers in Navarra, Spain, 2000-2013

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Biography:

She is a Medical Doctor, PhD, Specialist in Preventive Medicine and Public Health. She works in the Navarra Cancer Registry (Spain), and one of her priority research topics is cancer epidemiology.

Objectives:

Survival is a key indicator of the overall effectiveness of health services in the management of patients with cancer. The aim of this study was to provide updated survival estimates for women with breast and gynaecologic cancers in Navarra (Spain) and to assess changes over time.

Methods:

We used population-based data from the Navarra Cancer Registry. All incident cases of invasive breast and gynaecologic cancers among women aged 15-99 years, diagnosed from 2000 to 2013, were included and followed up for vital status until 2017. Annual life tables of the Navarra general population were used to control for background mortality. We estimated 5-year net survival through the Pohar-Perme method, by age group and period of diagnosis (2000-2006 and 2007-2013). The International Cancer Survival Standard weights were used to calculate age-standardized net survival (ASNS) estimates.

Results:

We included 4745, 1091, 245 and 608 cases of breast, corpus uteri, cervix uteri, and ovarian cancer, respectively. For breast cancer, the 5y-ASNS was 84.8% (95%CI: 82.1%-86.7%) in women diagnosed in 2000-2006 and 86.0% (95%CI: 83.7%, 88.3%) in those diagnosed in 2007-2013. For uterine cancers, the 5y-ASNS in 2000-2006 and 2007-2013 was 77.0% (95%CI 72.9%-81.2%) and 73.9% (95%CI 69.9%-77.9%) for corpus uteri; and 64.2% (95%CI 55.3%-73.1%) and 63.2% (95%CI 54.8%-71.6%) for cervix uteri, respectively. Regarding ovarian cancer, the 5y-ASNS was 38.2% (95%CI 32.7%-43.6%) and 43.2% (95%CI 37.3%-49.1%) in the first and last period, respectively. Therefore, there were no statistically significant changes between periods in the studied cancers. For the four tumors, survival decreased steadily with advancing age at diagnosis. The 5y-ASNS found in Navarra for each of these tumors were similar to those of Spain, according to REDECAN estimates.

Conclusions:

Survival for women's cancers in Navarra varied from high for breast and corpus uteri cancers to low for ovarian cancer. The implementation of an organized cervical cancer screening program in Navarra, which is planned to start soon, will probably improve survival of cervical cancer patients. Persistent poor survival for ovarian cancer points to the need for greater efforts to find effective means of early diagnosis, so that treatments are likely to be more effective.

P_70

Cause-specific survival of patients with cutaneous malignant melanoma (CMM) in Manizales, Colombia (2006-2015): a population--based study

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Biography:

I am a young researcher at Population-based Cancer Registry of Manizales, Colombia, South America. I am in training about cancer registration methodologies and data analysis for survival studies. I have a medical grade (physician) and nearly I will get a posgraduate title in Epidemiology.

Objective:

To determine the predicting factors of survival in patients with CMM in Manizales, Colombia.

Methods:

Descriptive cohort study based on incident CMM cases captured by the population-based cancer registry of Manizales between the years 2006 and 2015 (n=131). Patients were followed up until November 30th of 2020. Kaplan-Meier specific survival was calculated for sex, age, health insurance, topography, histological subtype, Breslow thickness, ulceration and clinical stage at diagnosis, with log rank test for differences. Finally, a Cox multivariate regression model for age, sex, histology, and clinical stage was fitted for multivariate analysis.

Results:

59,1% of the cases were women. Nodular melanoma (NM) was the most frequent histological subtype followed by the acral lentiginous melanoma (ALM) subtype (25,8% and 18,2%, respectively). Regarding to clinical staging, 19,7% of the cases were diagnosed on stage IV, with significant differences by sex (29,6% in men Vs 12,8% in women). Five-year specific cause survival of CMM in Manizales was of 68,7% (IC95% 59,9-76,0), with significant statistical differences in the multivariate analysis according to age (>70 years HR: 2,94 IC95% 1,22-7,06), histological subtype (SAI HR: 24,62 IC95% 2,91-208,03; NM HR: 20,93 IC95% 2,50-175,32; ALM HR: 10,43 IC95% 1,22-88,46, in comparison to superficial extensive melanoma and lentigo malignant melanoma) and clinical stage (stage IV HR: 17,13 IC95% 7,10-41,35, in comparison to stage I, II and III). Differences by Breslow thickness, ulceration, and sex, were not conserved in the multivariate analysis. These results are similar to those published for other populations in Colombia and Latin America, with survival rates lower than observed in European, North American and Australian populations.

Conclusions:

In Manizales, approximately 3 of every 10 patients with CMM died in the first five years following the diagnosis, with greater risk in patients over 70 years of age; SAI, NM, and ALM histological subtypes; and advanced clinical stage. It is necessary to improve preventive strategies oriented to promote photoprotection and to detect and manage opportunely suspicious skin lesions.

P_71

What are young women living conditions after breast cancer? Health-related quality of life, sexual and fertility issues, professional reinsertion

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Biography:

Emerline Assogba is a second year PhD student in public health. After graduating as a pharmacist, she decided to specialized in epidemiological and public health research. Her research focuses on the living conditions (quality of life, fertility, sexuality, return to work) of young long-term breast cancer survivors.

Background:

With the improvement in survival among young breast cancer (BC) survivors, a special attention is given over the last decades to health-related quality of life (HRQoL), as well as issues related to fertility and socio-professional reintegration. This population-based study aimed to identify the clinical, social and economic determinants of HRQoL and to describe the living conditions (fertility, sexual function, psychological distress, professional reinsertion) of young long-term BC survivors.

Patients and methods:

Women diagnosed for non-metastatic BC between 2006 and 2015, aged 45 years and younger at diagnosis were identified through the French Côte d'Or Breast and Gynecologic Cancer Registry. Participants completed a self-report questionnaire that included standardized measures of HRQoL, anxiety, depression, deprivation, social support and sexual function. Fertility and professional reintegration issues were also assessed. A mixed regression model was performed to identify the determinants of HRQoL.

Results:

In a total, 218 BC survivors participated in the survey. The main determinants of poor HRQoL were anxiety, depression, low social support satisfaction, comorbidities, deprivation and menopausal status. Seventy-two percent of women reported that they did not receive information about fertility preservation and 38% of them would have liked to be informed. Finally, 38% of BC survivors reported a negative impact of cancer on their professional activity and in 59% this negative impact still persisted at the time of the survey.

Conclusions:

This study showed that BC stage at diagnosis as well as disease treatments did not have an impact on young long-term BC survivors HRQOL. Fertility, sexuality and professional reintegration, remained the main issues for young BC survivors. Specific interventions in these populations should focus on the promotion of professional reintegration. Information on treatment impact on fertility as well as fertility preservation should also be further promoted.

P_72

Long term colorectal cancer survival in France: a population-based study

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Biography:

Head of the Digestive cancer registry of Burgundy.

Introduction:

With 43 336 estimated new cases and 17 117 estimated deaths in 2018 in France, colon and rectal cancers are a major public health issue. Providing survival estimates allow to assess globally the performance of the health care system and is useful tool for epidemiologic surveillance.

Methods:

All colon (N=70 341) and rectal (N=39 694) cancers diagnosed from 1990 to 2015 in all metropolitan administrative area covered by a registry were included. Vital status was updated to June 30, 2018. Long term net survival and trends over time were estimated using a novel approach based on penalized multidimensional splines to model excess mortality rates.

Results:

Ten-year net survival varied with age. In colon cancer it increased from 51% in patients aged 70 years at diagnosis to 54% in patients aged 60 years and 57% for those aged 50. In rectal cancer 10-year net survival was respectively 47%, 51% and 54% at 70, 60 and 50 years. The 20-year net survival for patients diagnosed at 60 years was 51% for colon cancer and 46% for rectal cancer. The excess mortality rate decreased until 10 years after initial diagnosis then remained stable for both locations. The 10-year standardized net survival (SNS) increased from 49% in 1990 to 58% in 2010 for colon cancer and from 45% to 54% for rectal cancer.

Conclusion:

These analyses reported the main results of a population-based cancer survival study gathering all the available data in the French cancer registries. They emphasized the effect of age at diagnosis. Time trends in survival may be related to numerous explanations such as improvements in diagnosis or surgical, anesthetic and oncological treatments.

P_73

Head and neck cancer survival in France, 1989-2018: a population-based study

Gardy Joséphine[1,16], Zoé Uhry[2,3], Karima Hammas[4,16], Bénédicte Lapôtre-Ledoux[5,16], Simona Bara[6,16], Michel Velten[7,16], Nadine Bossard[3,8], Camille Lecoffre[9], Lionel Lafay[10], Gaëlle Coureau[11,12,16], Morgane Mounier[13,16], Brigitte Trétarre[14,15,16], Anne-Valérie Guizard[1,16], FRANCIM and French Network of Cancer Registries

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Biography:

Joséphine Gardy is the data manager of the Calvados General Cancer Registry.

Background:

More than 17,600 new invasive Head and Neck cancers were diagnosed in France in 2018. Diagnoses are most often late and their management is complex.

Methods:

Invasive head and neck cancers (excluding hematological diseases) diagnosed from 1989 to 2015 in one of the metropolitan departments covered by a registry were included. Vital status was updated to June 30, 2018. Net survival (NS) at 1 and 5 years was estimated on a recent period (2010-2015) for all sites. Trends by year of diagnosis up to 10 years and long-term survival up to 20 years were studied for the most common cancer sites (oropharynx, oral cavity, larynx and hypopharynx). All results were obtained using a novel approach based on multidimensional splines penalized to model excess mortality rates.

Results:

Overall, head and neck cancers have a poor prognosis. The 5-year age-standardised net survival (SNS) is highest for the lips (89%), salivary glands (66 %), nasopharynx (66 %) and laryngeal cancers (59 %). SNS is lower for the nasal cavity (54 %), oral cavity (49 %) and oropharyngeal cancers (44%). Hypopharyngeal cancers have the worst prognosis (26 %). Regardless of site, prognosis is worse for men and survival decreases with age at all time of follow-up. Excess mortality rates are highest in the first year after diagnosis.

From 1990 to 2015, the greatest improvement in the 5-year SNS is observed for oropharyngeal cancer (+18 %), followed by cancers of the oral cavity (+13 %) and larynx (+10 %), while progress for hypopharyngeal cancers is very small (5 %).

These changes concern all ages, with comparable values, except for the oral cavity where the gain is greater for people aged 50.

Trends in 10-year SNS between 1990 and 2010 are close to those of 5-year survival, except for the hypopharynx where the very low 10-year SNS (12%) has not evolved.

Conclusion:

The improvements in 5-year SNS are probably the result of better diagnostic and therapeutic management. The progress seen for oropharyngeal cancers may also reflect an epidemiological shift with an increase in HPV-related cases whose prognosis is better.

P_74

Survival of myeloid malignancies in France from 1989 to 2018 in general population: what's new?

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Biography:

Research fellow. Research interests are based on the statistical applied in the context of population-based study. (PhD in biostatistics integrated in the network CENSUR) Experiences allow enhancing my knowledge and developing special abilities thanks to population-based study and the role of population-based registries in the observation of the cancer.

Abstract:

With 14,236 new cases in 2018 in France and an incidence rate increasing for some subtype, updated survival for myeloid malignancies is essential to assess the curative actions of health system. We present for the first time, survival for new entity like myeloproliferative neoplasm BCR-ABL-negative subtype and long-term survival 20-year net survival (NS) for Acute Myeloid leukaemia (AML) and Chronic Myeloid Leukaemia (CML).

All myeloid malignancies diagnosed from 2003 (1989 for AML, CML) to 2015 in a French metropolitan area covered by a population-based registry were included. (Follow-up June 30, 2018). 9 myeloid subtypes (5 majors and 4 subtypes) were defined according to the ICD-O-3. NS at 1, 5, 10 and 20-year (for AML,CML) was estimated using a novel approach based on multidimensional penalized splines to model simultaneously complex effect of covariables on the excess mortality rate (EMR) allowing to visualize survival trends over age and year of diagnosis. (R software, package survPen)

A third of myeloid malignancies diagnosed between 2010 and 2015 had a favorable prognosis at 5-year, 43% had an intermediate prognosis, 24% were defavorable. Age-standardized-NS at 5-year varied from 27% to 93% respectively for AML and Polycythaemia vera (PV). For all subtypes studied, survival was higher in women than men with a maximum sex-difference for Chronic Myelomonocytic leukaemia (CMML). Prognosis for PV, and Essential Thrombocythaemia (ET) was favorable whatever the age at diagnosis while for Primary myelofibrosis, survival decreased after 60-years-old. The largest survival improvement was observed for CML (+42% from 1990 to 2015) although stabilizing in the most recent period (2010-2015). Despite a survival increase in youngest patients after 2005, older AML patients keep the poorer prognosis. Since 2005, no improvement was observed for CMML or Myelodysplastic syndrome survival which remain low whatever ages. In oldest patients with ET, survival decreased from 2005 to 2015, probably due to a better identification of cases with diagnosis criteria. The study at 20-year shows a stabilization of EMR in AML.

This last update of survival allows to visualize the impact of progress in Myeloid malignancies management in general population and highlight profiles that need urgently improvement such as AML.

P_75

Cutaneous melanoma survival in France, 1989-2018: a population-based study

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Biography:

Public health physician, Director of the Haut-Rhin cancer registry.

Background:

About 15 500 cutaneous melanoma were diagnosed in France in 2018. This study provides updates of survival estimates and survival trends using data from the metropolitan French registries of the Francim network.

Methods:

The study considered all cases of cutaneous melanoma (except skin of genital organs) diagnosed between 1989 and 2015 in patients older than 15 years. Vital status was updated to 30 June 2018. Net survival (NS) at 1 and 5 years on a recent period of diagnosis (2010-2015), trends by year of diagnosis up to 10 years and long-term survival up to 20 years were estimated using a novel approach based on penalized multidimensional splines to model excess mortality rates.

Results:

Cutaneous melanoma diagnosed between 2010 and 2015 have a good prognosis with 5-year age standardised net survival (SNS) of 93%, higher for women (94%) than for men (91%). Over 60 years, 5-year NS decreases with age (94% for people diagnosed at 60 years and 87% for those diagnosed at 80 years). The excess mortality rate increases up to 18 months after diagnosis before decreasing, it is very low after 5 years. The excess mortality rate is highest for people aged 80. The 1, 5 and 10-year SNS increase between 1990 and 2010 (respectively by +3, +11 and +15% points). The greatest improvement occurs in people aged 80, with a 5-year NS of 69% in 1990 and 88% in 2015. The 1 and 5-year SNS are stable since 2010.

Regarding long-term survival, NS appears to be stable for all ages as it does not decrease by more than 2% points between 10 and 20 years.

Conclusion:

Net survival improvements may be the result of earlier diagnoses, with the setting of information campaigns on the risk of skin cancers at the end of the 1990s, as well as national screening days. The proportion of cutaneous melanoma with a good prognosis has increased since then and seems to have stabilised. Further studies will have to assess the effects on survival of new treatments for advanced stage patients used in the last decade.

P_76

Recent trends in prostate cancer survival in France: 1989-2018, a population-based study

Dr. Pascale Grosclaude[1,2], Dr. Zoé Uhry[3,4], Dr. Sandrine Plouvier[5], Dr. Tania D'Almeida[6], Dr. Laurent Remontet[4,7], Dr. Lionel Lafay[8], Dr. Brigitte Tretarre[2,9], Dr. Gaelle Coureau[10,11], Dr. Pascale Grosclaude[1,2], Reseau Francim[12]

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Biography:

Epidemiologist Tarn cancer Registry.

Background:

Among the indicators used in public health to describe cancers, survival is essential to assess the impact of screening and management practices over time but the results can lead to misinterpretation in a situation of overdiagnosis.

Methods:

All prostatic cancer diagnosed from 1989 to 2015 in one of the French metropolitan departments covered by a cancer registry were included (64398 cases). Vital status was updated to June 30, 2018. Net survival at 1, 5 years and trends over year of diagnosis were estimated using a novel approach based on penalized multidimensional splines to model excess mortality rates.

Results:

Prostate cancers as a whole have a very good prognosis with a 5-year standardized net survival of 93%. Standardized net survival at 1 and 5 years improved significantly between 1990 and 2010 (91% vs 98% and 71% vs 95, respectively), but then there is a stability or even a slight decrease in survival for cases diagnosed in 2015 compared to 2010 (98% vs 98% at 1 year and 92% vs 95% at 5 years). Although small, the decline is probable. The very strong improvement in net survival between 1990 and 2010 corresponds to an increase in the incidence of less advanced and less aggressive cancers with dissemination of screening practices. The significant increase in the proportion of cases with a good or very good prognosis naturally increased the average survival. Conversely, an increase in the proportion of severe cases can only result in a decrease in the average survival probability for all cases. In the absence of stage-specific data, it is difficult to say that there is not an increase in the number of serious cancers, but the fact that prostate cancer mortality continues to decline steadily suggests that the decrease in over-diagnosis accounts for the slight decline in average survival.

Conclusion:

These results confirm the importance of a continuous prostate cancer surveillance, including the collection of detailed information, to calculate population-based stage specific incidence and survival.

P_77

Solid cancer survival in France, 1989-2018: a population-based study

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Biography:

Medical doctor in public health.
PhD in Epidémiology.
Researcher-teacher in Bordeaux University.
Director of the Cancer registry of Gironde.

Context:

Among the indicators used in public health to describe cancers, survival is essential to assess the impact of prevention, screening and management actions over time. This is the fourth survival study carried out using data from the metropolitan registries of the Francim network in France.

Methods:

All solid cancer diagnosed from 1989 to 2015 in one of the metropolitan departments covered by a registry are included. Vital status was updated to June 30, 2018. Net survival at 1, 5, 10 and 20 years (when it was possible) and trends over year of diagnosis were estimated for 50 solid tumors (28 major locations and 22 anatomical or histological sub-locations) using a novel approach based on penalized multidimensional splines to model excess mortality rates.

Results:

The results show a great disparity in net survival between the different locations. The 5-years standardized net survival (SNS) ranges from 96% for thyroid cancers to 10% for mesothelioma. For a major part of cancer sites, the SNS at 5 years is higher in women. In the majority of cases, the risk of dying is high during the first year of follow-up and then decrease after. This can be seen through the dynamics of excess mortality rates. Trends of net survival over year of diagnosis show a globally significant improvement in net survival at 5 years for a majority of locations. Prostate cancer is the location for which we observe the greatest improvement in SNS at 5 years (+21 points) between 1990 and 2015, followed by sarcomas of the soft tissues (+19 points). Colorectal cancer is the one for which net survival changes the least between 5 and 20 years of follow-up (decrease of 10 points in 15 years whatever the age), with a survival around 50% at 20 years.

Conclusion:

These overall positive survival results observed in this French population-based study allows to observe the progress made in the healthcare system both in the detection of cancers but also in their post-diagnosis management. This gain is nonetheless contrasted depending on the location and on the age at diagnosis.

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Assessment of breast cancer survival in a northeastern Brazilian state, stratified by prognostic factors

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Biography:

Surgical oncologist, practicing in the University Hospital of The Federal University of Sergipe (UFS) – Aracaju, Sergipe, Brazil;
Head of the Aracaju Cancer Registry since 1998;
Researcher of the Health Science Graduate Program – UFS, supervising Master's and PhD students in cancer epidemiology studies;
PI of the present study.

Abstract:

Breast cancer is a major public health problem, and it is the most common type of cancer in women. Incidence, morbidity and mortality statistics might reflect the efficacy of health facilities, control the distribution of resources, and assess the impact of predictive factors on survival. The present study aimed to estimate the overall and specific survival of women with breast cancer, and to identify independent prognostic factors for survival, in a northeastern Brazilian state, in the period from 2010 to 2014. The authors developed a retrospective cohort study to estimate survival, based on exposure to prognostic factors such as age, place of residency, time from diagnosis to treatment, modality of first treatment, cancer staging, nodal involvement, and molecular classification. The event of interest was time until death, thus estimated 5-year survival. Censoring was on the condition of being dead or alive by the time of the close of the study, and loss to follow-up. Survival functions were calculated using the Kaplan - Meyer method, Log-Rank test, Pearson's chi-squared test and Cox regression model. The results showed overall survival of 70% and specific cancer survival of 75%. The prognostic factors that were associated with the worst overall survival, independently, were stage III (Hazard Ratio, HR = 6.697 CI95% 4.01; 12.09), stage IV (HR = 16.56 95% CI 8.35; 32.85) and triple negative molecular classification (HR = 2.73 95% CI 1.73; 4.29). The best specific survival was observed in women with time from diagnosis to treatment ≤ 60 days, stage I, and luminal A (p <0.001). In conclusion, lower figures of overall and specific survival, compared to more socioeconomically developed regions were observed, and prognostic factors were also identified. In addition, the present study allowed a better understanding of the profile of breast cancer patients in a northeastern Brazilian state, pointing to the need for specific public policy actions, such as improvement of the diagnostic and treatment modalities in cancer care.

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