THYROID AS FIRST OR SECOND PRIMARY CANCER IN ITALY, 1998-2012. A POPULATION-BASED STUDY

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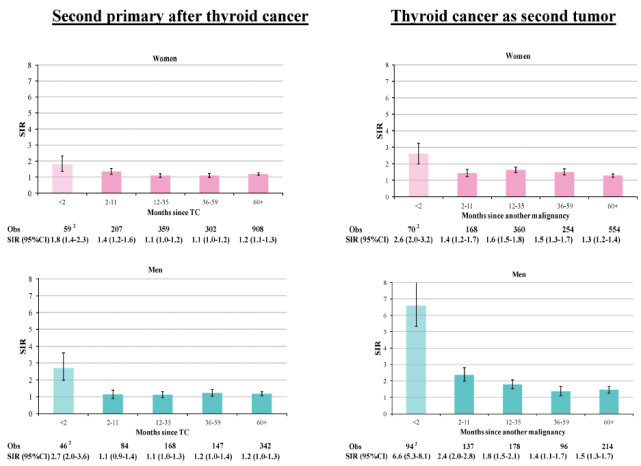
Background: The number of patients living after a cancer diagnosis is increasing, especially after thyroid cancer (TC). This study aims at evaluating both the risk of a second primary cancer (SPC) in TC patients and the risk of TC as a SPC.

Materials & Methods: Two population-based cohorts of cancer patients, incident in 1998–2012 (age <85 years), were selected from **28 cancer registries in the Italian Airtum network** (www.registri-tumori.it). The first cohort included **38,535 TC patients**, while the second included **1,368,159 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 (4% after TC and 8% for TC as second) were not included in the computation of cancer-specific SIRs.

Results: Overall SIR for SPC **in TC patients** was 1.16 (95% CI: 1.12-1.21) and remained elevated after 5 years since TC (1.18, 95% CI: 1.12-1.25), but no increase was shown after follicular (1.06) and medullary TC (0.95). SIR was significantly increased for bone/soft-tissue (2.0), breast (1.2), prostate (1.4), kidney (2.2), and hemolymphopoietic cancers (1.4). **Among non-TC cancer patients**, SIR for TC was 1.49 (1.42-1.55) and was less markedly elevated (1.32, 1.23-1.42) after 5 years since first tumor. SIRs were similar for all TC subtypes and was significantly increased after head and neck (2.1), colon-rectum (1.4), lung (1.8), melanoma (2.0), bone/soft tissue (2.8), breast (1.3), corpus uteri (1.4), prostate (1.5), kidney (3.2), central nervous system (2.3), and hemolymphopoietic cancers



Conclusions: An increased risk of few SPC after TC and of TC after many other neoplasms emerged in Italy. This study confirms the clinical usefulness of cancer registries. Our findings 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.

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