Abstract Title:
Survival of 86,690 patients with thyroid cancer: a population-based study in 29 European countries from EUROCARE-5.

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Abstract
Background: Incidence rates of thyroid cancer have increased remarkably in several countries during the last 30 years, in contrast with steady trends in mortality rates. This study provides updated population-based estimates of relative survival (RS) after a thyroid cancer diagnosis in Europe by sex, country, age, period, and histological type. The need for improved methods of diagnosis and possible avoidance of un-necessary and harmful treatments is also explored.

Methods: Data from 87 cancer registries in 29 countries were extracted from the EUROCARE-5 dataset. One- and five-year Relative Survival Rates were computed using the cohort approach for 86,690 adult thyroid cancer patients diagnosed in 2000–2007 and followed-up to the end of 2008. The period approach was used to estimate trends of Relative Survival Rates in 1999-2007 and 10-year Relative Survival Rates in 2005-2007.

Results: For thyroid cancer patients diagnosed in 2000-2007, the overall five-year Relative Survival was 88% in women and 81% in men, but marked countries’ variations emerged with a strong correlation (>70%), by country, between survival and incidence rates. Five-year Relative Survival was highest for papillary thyroid cancer (98% in women and 94% in men), and poorest for anaplastic thyroid cancer (14% in women and 12% in men). In women, >99% five-year Relative Survival at age 15-44 years (35% of cases) was recorded in all areas, >95% at age 45-54 years (22% of cases), decreasing to 57% at age 75+ (10% of cases). Estimated 10-year Relative Survival in 2005-2007 was 89% in women and 79% in men. In 1999-2007, five-year RS increased by 5% for all thyroid cancers, by 2% for papillary, 4% for follicular thyroid cancer and, in women only, by 7% for medullary and anaplastic thyroid cancer.

Conclusions: The reported increase in thyroid cancer survival trend and differences by country seem to be largely explained by the varying histological case-mix and age distribution of cases. These observations stress the need to reconsider local practices of thyroid gland examination and to avoid avoidable treatments in some low-risk thyroid cancer sub-types.

Message: This study helps to inform possible management strategies for thyroid cancer patients aimed at reducing un-necessary and potentially harmful treatments that negatively impinge on patients’ quality of life.