A 22-Year Retrospective Epidemiological Review Of Thyroid Cancer Trends In Northern Ireland: 1993-2014

A 22-Year Retrospective Epidemiological Review Of Thyroid Cancer Trends In Northern Ireland: 1993-2014

W O A Penfold, G Gray, D A Fitzpatrick, E Morgan, C B Donnelly, I M Black, A T Gavin

a = University of Bristol b = Royal Victoria Hospital, Belfast c = NICR

Background and objectives

Thyroid cancer incidence has increased globally since the 1970s. Numerous studies have confirmed this striking trend including studies from the United States, Puerto Rico, Canada, China, Saudi Arabia, Australia, France, Nordic countries, Portugal, Croatia, Slovak Republic, Great Britain as a whole and Scotland. Some authors have identified the trend as early as the 1960s. The importance of studying trends worldwide is evident from the results in the literature. We aimed to produce a detailed report of trends in Northern Ireland (NI) to expand on previous work including a report of all cancers in NI and the cancer statistics presented on the NI Cancer Registry (NICR) website annually (http://qub.ac.uk/research-centres/nicr/CancerInformation/).

Methods

A retrospective, descriptive epidemiological review was performed using anonymised data from the NICR. CI7 is the thyroid cancer ICD-10 code. We used STATA to calculate incidence statistics and Joinpoint Regression Analysis to analyse trend significance. Registry ethical approval was previously granted.

Results

There were 1,212 cases over the 22 years (27.06% male, 72.94% female, F:M=2.7:1). Incidence increased significantly in females (1999-2014, annual percentage change (APC) +4.6%, p<0.05, 95% confidence interval (CI) +2.4, +6.9). Frequency increased predominantly in ages 40-44 (1995-2014, APC +4.6%, p<0.05, CI +2.5, +6.5). 55.63% of the 320 cases with staging data (2010-2014) were stage I. Papillary carcinoma frequency increased dramatically (2004-2014, APC +11.01%, p<0.05, CI +5.8, +16.4).

Conclusions

This study shows that thyroid cancer incidence has increased in NI in the last 2 decades in females and middle-aged patients. This is shown to be mainly due to papillary carcinomas, potentially mostly stage I. These findings corroborate the findings in the literature. Data may support the hypothesis put forward in the literature that over-diagnosis, due to the advent and increased use of sensitive technologies such as ultrasound and fine needle aspiration, has resulted in apparent increasing trends in thyroid cancer incidence.

References:


Acknowledgements: The NICR is funded by the Public Health Agency for NI. Many thanks to the NICR staff for help, support and training during the project.