Trends in incidence of thyroid cancer in Incheon province, South Korea from 2004 to 2013: Focusing on association between screening and thyroid cancer incidence

Jeongshim Lee 1, Hyun Young Lee 2*, and Woo Chul Kim 1, 2

1Department of Radiation Oncology, Inha University Hospital, Inha University School of Medicine, Incheon, South Korea
2Association of Cancer Registry, Incheon province, Incheon, South Korea

OBJECTIVES

- During recent decades, the incidence of thyroid cancer has increased steadily in many countries, including South Korea.
- South Korea has the highest incidence of thyroid cancer in the world, which has raised public concern about the potential cause and also about the financial burden on the national healthcare system.
- Our study was aimed to confirm the trend in thyroid cancer incidence in Incheon province, South Korea from 2004 to 2013, and to identify the association between thyroid cancer screening and thyroid cancer incidence.

METHODS

- We collected information associated with annual incidence of thyroid cancer between 2004 and 2013 from Association of Cancer Registry, Incheon province, South Korea.
- We collected basic variables from registry records. These included age and sex, and tumor related variables, such as tumor size, histological type, status of nodal and distant metastases, tumor stage, and the method in which the tumor was detected.
- We evaluated the annually changes of thyroid cancer incidence from 2004 to 2013, and its incidence according to the detection methods.

RESULTS

- The average incidence of thyroid cancer was recorded 3 per 100,000 individuals from 2004 to 2013.
- Over the time, the incidence of thyroid cancer has increased from 1 per 100,000 individuals in 2004 to 5 per 100,000 individuals in 2013 across Incheon province, South Korea.
- This incidence of thyroid cancer had been steadily increased from 2004 to 2013, showing the significant association between increased screening test and thyroid cancer detection (p < 0.05).
- In addition, of the increase, 54% were measured 10 mm or less tumors, and 85% of which were detected by screening.
- Considering the increase in thyroid cancer incidence, the economic burden of using screening ultrasound to detect these subclinical small tumors had been expected to rise rapidly during these periods.

CONCLUSIONS

- Over the time from 2004 to 2013, the incidence of thyroid cancer has increased from 1 per 100,000 individuals in 2004 to 5 per 100,000 individuals in 2014 across Incheon province, South Korea.
- The screening for thyroid cancer was contributed to the current increasing incidence of thyroid cancer in Incheon province, South Korea.
- In particular, in terms of association between tumor size and tumor detection method, there was a greater increase in the incidence of screen detected for small thyroid cancer.

References