Session 3.2

Thyroid Ultrasound Survey in Yamanashi Prefecture and review of latent thyroid cancers

Hiroki Shimura

Department of Clinical Laboratory and Department of Thyroid Ultrasound Examination in Radiation Medical Science Center, Fukushima Medical University

Recently, it is well known that thyroid nodules were frequently found in adult by ultrasound examinations. In Yamanashi Prefecture in Japan, thyroid ultrasound survey has been performed for adult participants of Ningen Dock, a comprehensive health examination to detect diseases and to reduce health risks, for several decades. The result in the past decade shows that ultrasound findings indicating thyroid nodules (≥3.0 mm), cysts (≥3.0 mm), or diffuse thyroid diseases were found in 22.8%, 27.6%, or 11.2%. The prevalence of these findings was increased in paralleled with the age of participants. Annual changes in diameter of thyroid nodules were analyzed in participants who visited this survey several times in this period. Only 3% of nodules whose diameter were less than 5.1mm exhibited ≥ 1.1 mm/year increase in diameter. In contrast, annual increase in diameter≥ 1.1 mm/year was observed in 25% of nodules whose diameter were more than 10.0 mm. Thyroid cancer was identified in 57 participants (0.26%). Annual increase in diameter of thyroid cancer (1.33 ± 0.72 mm/year) was significantly higher than that of benign nodule (0.22 ± 0.28).

The prevalence of thyroid nodules and cancers were dependent on the method to examine, palpation, ultrasound, or autopsy. In this presentation, meta-analysis of previous reports investigating prevalence of thyroid nodule and caner will also be presented. Since thyroid gland develops latent thyroid cancer with the extremely high prevalence, 10 to 30% of autopsy cases, careful interpretation is required to decide policies of the thyroid disease management.