

Systemic Lupus Erythematosus and Thyroid Cancer

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COMMENTARY

Several studies have clearly shown an increased incidence of thyroid cancer in patients with SLE. Despite many intensive studies, the mechanism of SLE thyroid malignancies is unclear. Patient backgrounds and treatments vary from country to country, making clear analysis difficult. The further availability of ultrasonography should not only uncover SLE patients with thyroid cancer, but also add new aspects to the risk factors for malignant thyroid tumors of SLE in the near future.

Systemic Lupus Erythematosus (SLE) has long been recognized as having a high incidence of malignancies, including thyroid cancer, as shown in recent reviews [1-4]. Several meta-analyses support this finding [5-8]. Many cohort studies around the world have shown increased prevalence of thyroid malignancies across geography, race, and ethnicity [9-22]. A definitive analysis leading to thyroid cancer predisposition to SLE has not yet been achieved. Autoimmunity, which is thought to be the major cause of SLE, also promotes thyroid immunity and causes the development of cancer [1,2,9]. Some study has suggested a long course of disease as a facilitator [23]. Others have mentioned the involvement of drugs in the progression of thyroid cancer: azathioprine may accelerate thyroid cancer [19], but hydroxychloroquine may protect its development [17].

The etiology of SLE itself has not been clearly elucidated, and symptoms vary from patient to patient. In addition, treatment options are wide-ranging and their availability varies from country to country. Such variability may be a hurdle in the analysis of risk factors for developing thyroid cancer in SLE.

Moreover, it seems that chance of identifying thyroid malignancies varies from physician to physician. Some rheumatologists are eager to find thyroid diseases by ultrasonography; others rarely use such medical modalities with fewer burdens on the patients. In fact, our diagnostic approach to thyroid cancer was found to be uneven, based on a 2018 survey of Japanese pediatric rheumatologists, including 19 major Japanese specialists. In our survey, the rate of ultrasound testing was 0% 8 facilities (42%), 1%-20% 9 facilities (47%), 21%-40% 0 facilities (0%), 41%-60% 1 facility (5%), 61%-80% 1 facility (5%), 81%-100% 0 facilities (0%).

As is widely recognized, the first diagnostic approach to thyroid

cancer should be ultrasonography followed by surgical biopsy [24]. Despite the exponential increase in the usefulness of ultrasound for the assessment of arthritis in rheumatology, rheumatologists are not keen on detecting thyroid cancer by ultrasonography. In the near future, the use of ultrasound is expected to detect widespread thyroid cancer in patients with SLE and the causes of high-rate thyroid cancer in SLE can be elucidated.

In addition, our diagnostic approach to thyroid cancer was found to be non-uniform, based on our survey of Japanese pediatric rheumatologists. The first diagnostic approach to thyroid cancer should be ultrasonography followed by surgical biopsy [24]. Despite the exponential increase in the usefulness of ultrasound for the assessment of arthritis in rheumatology, rheumatologists are not keen on detecting thyroid cancer by ultrasonography. In the near future, the use of ultrasound is expected to detect widespread thyroid cancer in patients with SLE.

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