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[LETTERS TO THE EDITOR]

Potential Importance of a Histopathological Analysis in Thyroidal Diseases with High Serum IgG4 Levels

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To the Editor We read with great interest the report of IgG4 levels among patients with Basedow's disease by Torimoto et al. (1). They reported that high IgG4 levels were observed in 6.9% of patients with Basedow's disease, and that these patients largely possessed a large thyroid low-echo area. Related to such features, we previously experienced a patient with a very-high IgG4 level with diffuse, large, low-echoic goiter who was ultimately diagnosed with mucosa-associated lymphoid tissue lymphoma.

A 52-year-old woman was referred to our hospital for an examination of hypothyroidism and diffuse goiter. Her serum IgG, IgG4, and eosinophil levels were 2,518 mg/dL, 1,090 mg/dL, and 130/mm³, respectively. Thyroperoxidase and thyroglobulin antibodies were strongly positive. Thyroid ultrasonography showed diffuse heterogeneous hypoechoic parenchyma, and there were no other abnormalities on positron emission tomography. A pathological examination of the thyroid tissues revealed the presence of CD20-positive lymphoid follicles and the infiltration of CD79a-positive plasma cells in both follicles and stroma. In addition, nearly 40% of the CD79a cells were IgG4-positive. An additional examination revealed an Igκ-dominant pattern compared with Igλ (κ/λ light chain restriction). The patient was therefore ultimately diagnosed with mucosa-associated lymphoid tissue lymphoma of the thyroid, according to the World Health Organization (WHO) 2008 criteria (2). Radiotherapy improved her thyromegaly and decreased the serum IgG4 level from 1,090 mg/dL to 270 mg/dL.

Miki et al. (3) reported a similar case with thyroid enlargement, a low-echoic region, and high IgG4 concentrations diagnosed as mucosa-associated lymphoid tissue lymphoma. Another study reported that most thyroid lymphoma

show low-echoic regions on ultrasonography and that diffuse heterogeneous hypoechoic parenchyma was confirmed in mucosa-associated lymphoid tissue lymphoma (4). According to the diagnostic criteria for IgG4-related disease (5), both proof of serum IgG4 elevation and histopathological finding as well as the exclusion of malignancy and other inflammatory diseases are important. In both our case and the previous reports above, the precise causes of IgG4 elevation could not be clarified without a histopathological examination. We should therefore explore the clinical courses and status changes using ultrasonography in patients demonstrating high IgG4 levels.

It is important to determine the origin of the elevated IgG4 levels, as therapeutic strategies differ between primary diseases. To determine whether or not Basedow's disease patients with high IgG4 levels are a new subtype, further investigations including a careful histopathological analysis are required, especially in patients with low-echoic thyroid regions.

The authors state that they have no Conflict of Interest (COI).

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