

A Case of IgG4 related Hashimoto's thyroiditis diagnosed after surgical resection

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Introduction: IgG4 related disease is a disease spectrum involving many organ systems and currently has attracted growing interests in many clinical departments. In thyroid diseases, subtypes of Riedel's thyroiditis, Hashimoto's thyroiditis and its fibrotic variant, Graves's disease are related to IgG4 accumulation. Diagnosis of IgG4-related thyroid disease (IgG4-RTD) requires a combination of clinical features and serology, but mainstay of diagnosis is histological features with IgG4 immunostaining. Steroids are the first-line treatment.

Case report: A 31-year-old male visited thyroid clinic with a progressively growing large neck mass. Grade 3, hard and diffuse large goiter without tenderness was shown in physical examination. Serum thyrotropin level was increased by 28.4 IU/L and free T4 level was 0.91 ng/dL. Anti-thyroid peroxidase antibody and anti-thyroglobulin antibody was also increased. In neck ultrasonography (US), there was no focal nodular lesion and parenchymal echogenicity was heterogeneously decreased. He underwent L-thyroxine replacement during 6 months for subclinical hypothyroidism with Hashimoto thyroiditis. However, the size of goiter had increased during follow-up. The result of US guided core needle biopsy was granulomatous thyroiditis with stromal fibrosis. Due to the progressively increased goiter, he underwent total thyroidectomy. The weight of thyroid specimen was 135 grams. Microscopically, dense lymphoplasmacytic infiltrate, interlobular and interfollicular fibrosis, and increased IgG4-positive plasma cells (up to 152 cells/HPF) were identified, supporting the diagnosis of IgG4 related Hashimoto's thyroiditis. Serum IgG4 level increased by 1.71 g/L and there was no evidence of other organ involvement of IgG4-related disease.

Conclusion: This report describes a case of IgG4 related Hashimoto's thyroiditis diagnosed after surgical resection of rapidly growing goiter with hypothyroidism. IgG4 -RTD is rare and early diagnosis of IgG4-RTD is difficult without clinical suspicion. Evaluation of biopsy specimen with IgG4 immunostaining and serum IgG4 measurement would be important for early diagnosis and management of IgG4-RTD.

