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Case Report

A Young Female with Riedel's Thyroiditis

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Abstract

Riedel's thyroiditis is a rare fibrosing disorder of the thyroid gland, with a prevalence of approximately 1/100,000, predominantly affecting women between 30 and 50 years of age. We report the case of a 36-year-old woman with a 10-year history of hypothyroidism on thyroxine replacement, who presented with a painful, hard thyroid swelling for seven months associated with dysphagia, shortness of breath, hoarseness, and sore throat. Examination revealed a stony hard, fixed thyroid mass without lymphadenopathy. Laboratory evaluation showed a thyroid-stimulating hormone (TSH) level of 0.613 mIU/L and an elevated erythrocyte sedimentation rate (ESR) of 55 mm/hour (normal range 0–30). Ultrasonography demonstrated markedly enlarged thyroid lobes with ill-defined hypoechoic nodules containing coarse calcifications, encasing the thyroid cartilage and major vessels, and without increased vascularity. Computed tomography (CT) imaging confirmed diffuse thyroid enlargement with retrosternal extension and mild tracheal compression. A thyroid scan revealed reduced radiotracer uptake. Trucut biopsy showed dense sclerotic collagenous tissue with histiocytic and mild lymphoid infiltrate; Congo red staining was negative for amyloid. These findings were consistent with Riedel's thyroiditis. The case highlights the diagnostic challenges of this rare entity, which can mimic malignancy both clinically and radiologically, emphasizing the importance of histopathological confirmation for accurate diagnosis and management.

Keywords: Riedel's thyroiditis, fibrosing disorder, TSH, Computed tomography.

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Introduction

Riedel's thyroiditis is an unusual form of chronic thyroiditis in which a fibrotic process involves the whole of the thyroid gland. It is a chronic inflammatory disease of the thyroid gland characterized by invasive fibrosis that partially destroys the thyroid gland and extends into adjacent neck structures. It was recognized in 1986 by Riedel, who described three patients with hard goiters and tracheal compression symptoms.[1,2] This sclerotic process not only involves thyroid gland but also involves blood vessels, trachea, esophagus, parathyroid glands and nerves, so it also leads to compressive symptoms. The exact cause of Riedel's thyroiditis is not known but till now it appears to be a local manifestation of a systemic fibrotic process.[3] It is usually found in the fifth decade and women are mostly affected with a female to male ratio of 4:14. Cervical lymphadenopathy is usually not present in cases of Riedel's thyroiditis but has been reported rarely.[5] Among Riedel's thyroiditis patients, one third develop fibrosis in other organs but the disease related mortality is low.[6]

Case Presentation

A 36-year-old female, known case of hypothyroidism for 10 years (on thyroxine replacement) presented with a history of painful hard thyroid swelling for 7 months, compressive symptoms (dysphagia and shortness of breath), hoarseness of voice and sore throat. On examination there was stony hard swelling, fixed to the underlying structures. There was no associated lymphadenopathy. Investigations showed; TSH: 0.613, ESR 55 (0 -30 is normal range), Ultrasound neck showed an enlarged left lobe of thyroid measuring 106 x 38mm containing multiple nodules, with the largest left sided nodule placed medially which appears to be hypoechoic, it is encasing the major vessels and the thyroid cartilage both medially and laterally. Coarse calcification also identified within this nodule. There is no increased vascularity identified in this nodule. The right lobe is entirely replaced by ill-defined hypoechoic nodule which is measuring 72 × 51 mm. This is also encasing

the thyroid cartilage both medially and laterally containing coarse areas of calcification. The isthmus also appears to be swollen. No significant lymphadenopathy noted. Thyroid scan showed reduced radiotracer uptake in the region of the thyroid gland. CT scan head and neck showed thyroid gland is enlarged especially the left lobe with retrosternal extension. It measures 77×59×45mm. It is slightly displacing the trachea towards the right side and causing mild compression. No neck lymphadenopathy as in Figure I. Trucut biopsy of thyroid gland showed predominantly sclerotic collagenous tissue with dense histiocytic and mild lymphoid infiltrate. Congo red is stain does not highlight any amyloid deposits.

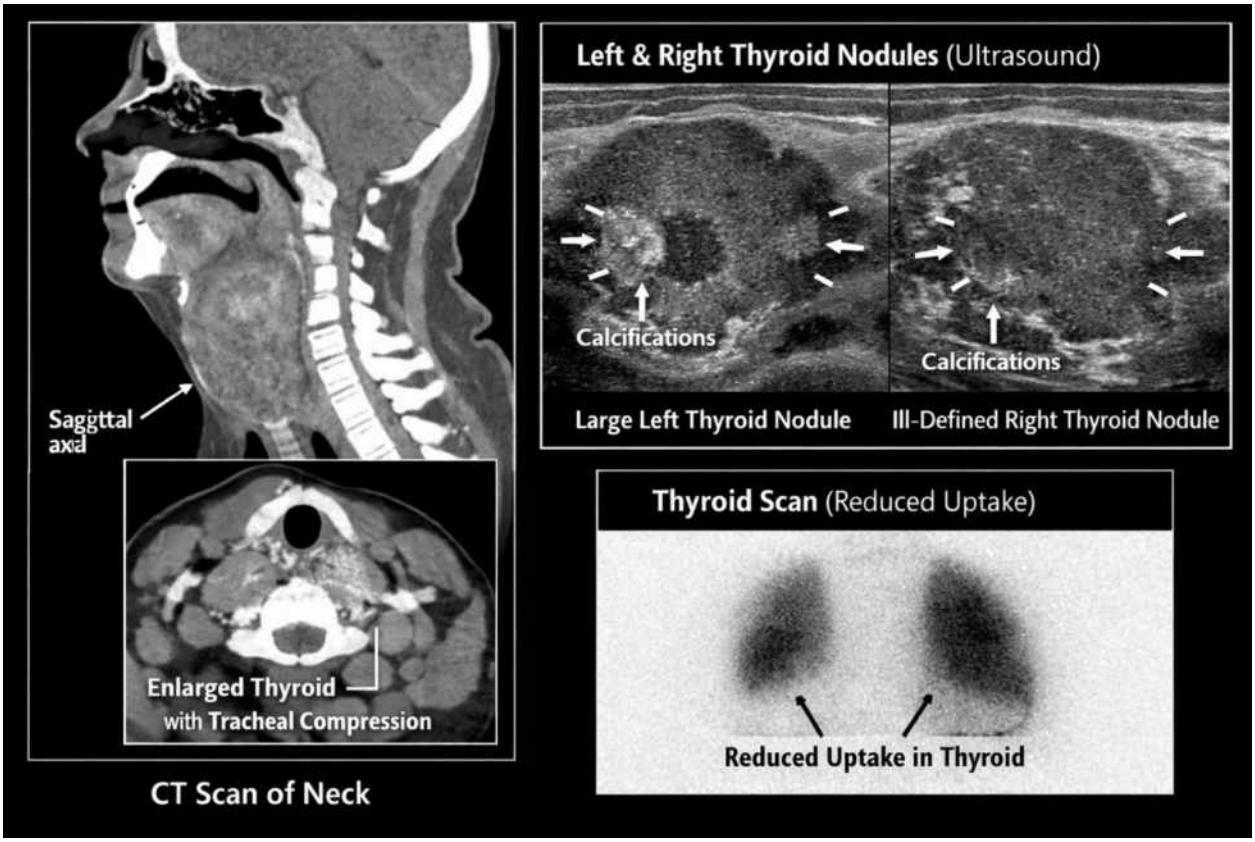

Figure I: *Images of CT Head and Neck*

She was started on steroids (tab prednisolone 30 mg twice daily). She responded well to treatment within 4 weeks, as symptoms of dysphagia and shortness of breath resolved. Her thyroxine replacement was continued. Gradually, her steroids were tapered over a period of 8 months. Repeat ultrasound after 1 year showed significant interval reduction in the size of both lobes of the gland.

Discussion

Riedel's thyroiditis is a chronic inflammatory disease of the thyroid gland characterized by invasive fibrosis that partially destroys the thyroid gland and extends into adjacent neck structures. Riedel's thyroditis is well known for its rare existence and until now only few cases have been reported in literature. High dose corticosteroids particularly prednisolone is quite effective when used as monotherapy or in combination with Levothyroxine.[6-9] Thyroidectomy is reserved only for those patients with compressive symptoms, suspicious malignancy, and failure of achieving response to medical treatment.

Conclusion

Riedel's thyroiditis is an extremely rare disease that is difficult to diagnose correctly using preoperative diagnostic tools because it can mimic malignant neoplasm or the fibrous variant of Hashimoto thyroiditis during preoperative physical, radiological, and pathological examination. This case report highlights the difficulties that one may encounter in terms of diagnosing and managing such a case.

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Authors' Contribution

SB: Conception.

SB, NI: Design of the work.

NI: Data acquisition, analysis, or interpretation.

SB, NI: Draft the work.

SB, NI: Review critically for important intellectual content.

All authors approve the version to be published.

All authors agree to be accountable for all aspects of the work.

References:

1. Riedel BM. Vorstellung eines Kranken mit chronischer Strumitis. Verh Dtsch Ges Chir. 1897;26(1):127-9.
2. Riedel BM. Die chronishe, zur Bildung eisenharter Tumoren fuhrende Entzundung der Schildruse. Verh Dtsch Ges Chir. 1896;25:101-5.
3. Kottahachchi D, Topliss DJ. Immunoglobulin G4-related thyroid diseases. Eur Thy J. 2016;5(4):231-9.
4. Fatourechi MM, Hay ID, McIver B, Sebo TJ, Fatourechi V. Invasive fibrous thyroiditis (Riedel thyroiditis): the Mayo Clinic experience, 1976–2008. Thyroid. 2011; 21(7):765-72.
5. Zakeri H, Kashi Z. Variable Clinical Presentations of Riedel′ s Thyroiditis: Report of Two Cases. Case Rep Med. 2011;2011(1):709264.
6. Papi G, Livolsi VA. Current concepts on Riedel thyroiditis. Pathol Pat Rev. 2004;121(suppl_1):S50-63.
7. Schwaegerle SM, Bauer TW, Esselstyn Jr CB. Riedel's thyroiditis. Am J Clin Pathol. 1988;90(6):715-22.
8. Hennessey JV. Riedel's thyroiditis: a clinical review. J Clin Endocrinol Metabol. 2011;96(10):3031-41.
9. Shahi N, Abdelhamid MF, Jindall M, Awad RW. Riedel's thyroiditis masquerading as anaplastic thyroid carcinoma: a case report. J Med Case Rep. 2010;4:1-3.