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Case Report

Riedel's Thyroiditis Revealed by Retroperitoneal Fibrosis: A Report of Two Cases, Focusing on the Role of Biological Investigations

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Abstract: ***Introduction***: Riedel's thyroiditis (RT) is a rare disease characterized by destructive inflammatory fibrosis of the thyroid gland. It is often part of a systemic disease, idiopathic multifocal fibrosclerosis, which can affect other sites such as the retroperitoneum. We report two cases of RT revealed by retroperitoneal fibrosis (RPF), emphasizing the contribution of biological investigations to the diagnosis and management. ***Case Reports: Case 1*:** A 36-year-old female, with no significant medical history, presented with bilateral renal colic and a hard goiter. Laboratory findings revealed renal insufficiency and a normal thyroid panel. Imaging (ultrasound, CT urogram) confirmed RPF. Lymph node and thyroid biopsies confirmed the fibro-inflammatory process. ***Case 2*:** A 72-year-old female, with a history of hypertension and diabetes, presented with a long-standing stony goiter. A routine blood test revealed renal insufficiency. Imaging highlighted RPF. Histology after total thyroidectomy confirmed RT. ***Discussion***: Biological investigations play a crucial role at several levels: 1) Screening for systemic involvement (renal failure), 2) Assessment of thyroid status (often normal initially), 3) Search for inflammatory evidence (biological inflammatory syndrome, often present), and 4) Therapeutic monitoring under corticosteroids. The absence of specific autoantibodies makes histology essential for diagnosis. ***Conclusion***: RT is a rare cause of RPF. Although non-specific, biological workup is a key element for diagnosing systemic extension and for follow-up. It must systematically include renal, thyroid, and inflammatory assessments in any suspected case of RT.

Keywords: Riedel's Thyroiditis, Retroperitoneal Fibrosis, Goiter, Renal Insufficiency, Fibro-inflammatory Disease.

INTRODUCTION

Riedel's thyroiditis (RT) is a rare chronic inflammatory pathology, belonging to the spectrum of idiopathic fibro-inflammatory or systemic fibrosclerosing diseases. It is characterized by the replacement of the thyroid gland by dense fibrous tissue that extends to adjacent neck structures [1]. In approximately 30 to 40% of cases, RT is associated with foci of fibrosis in other locations, notably the retroperitoneum, mediastinum, or biliary tract, thus constituting idiopathic multifocal fibrosclerosis [2]. Presentation with retroperitoneal fibrosis (RPF), causing ureteral obstruction and renal failure, is classic but often underrecognized. Diagnosis relies on histology, with biological investigations playing an essential role in screening for complications and follow-up. We present two cases of RT revealed by RPF, with particular interest in the contribution of biological workup.

CASE REPORTS

Case 1

A 36-year-old female, with no significant pathological history, consulted the urology department for bilateral renal colic resistant to usual analgesic treatment. Clinical examination revealed a goiter of hard consistency, fixed and painless. The initial biological workup revealed the following major elements:

- **Renal function:** Renal insufficiency with elevated serum creatinine.
- **Thyroid function:** Normal (TSH, fT4, fT3 within normal limits).
- **Inflammatory markers:** Not specified, but a biological inflammatory syndrome (elevated CRP and/or ESR) is suspected in this context.
- **Autoantibodies:** Anti-thyroperoxidase (anti-TPO) and anti-thyroglobulin (anti-Tg) antibodies were negative or at non-significant levels.

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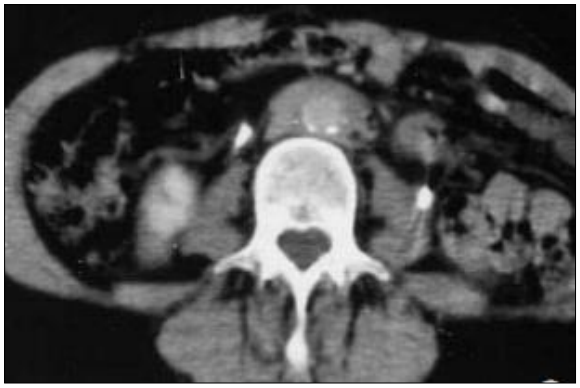
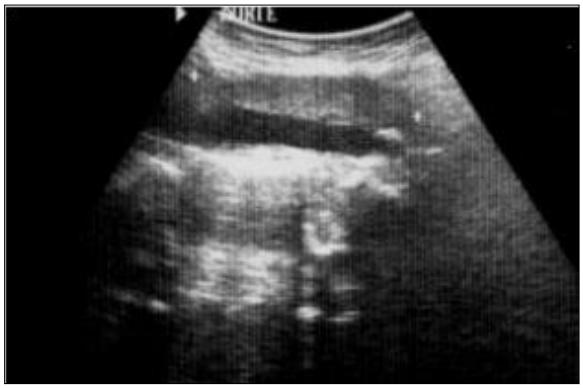
Renal ultrasound showed significant left hydronephrosis. CT urogram confirmed the retroperitoneal fibrosing process, responsible for the encasement and compression of the ureters, associated with lombo-aortic lymphadenopathy. A lymph node biopsy was performed; its pathological examination showed granulation tissue rich in fibroblasts, with fibrin deposits and a polymorphous inflammatory infiltrate rich in neutrophils and lymphocytes, with no evidence of malignancy. To confirm the link with the thyroid involvement, a thyroid biopsy was performed. Its analysis revealed extensive dense fibrosis with a chronic inflammatory infiltrate, ruling out thyroid cancer and confirming the diagnosis of Riedel's thyroiditis.

Case 2

A 72-year-old female, with a history of hypertension and type 2 diabetes, was being monitored for a voluminous, "stony" consistency, painless goiter that had been evolving for several years. A routine check-up revealed impaired renal function (elevated serum creatinine). The thyroid panel was not specified but was probably normal or subnormal. Renal ultrasound showed bilateral pyelocaliceal dilatation without visible obstruction, requiring the urgent placement of double-J stents. The CT urogram demonstrated typical retroperitoneal fibrosis. Given the compressive cervical symptoms and the suspected diagnosis, the patient underwent a total thyroidectomy for diagnostic and decompressive purposes. Pathological examination of the surgical specimen concluded chronic fibrous thyroiditis, consistent with the diagnosis of Riedel's thyroiditis, characterized by complete destruction of the follicular architecture by dense fibrosis and a lymphoplasmocytic inflammatory infiltrate.



Tomographic aspect of a retroperitoneal fibrosis plaque



Retroperitoneal fibrosis, ultrasound appearance. The fibrous plaque has a solid echostructure, is hypoechoic, with clear anterior borders. It surrounds the large vessels which are flattened

DISCUSSION

Our two cases perfectly illustrate the systemic presentation of Riedel's thyroiditis, revealed here by its retroperitoneal complication. Analyzing the role of the biological workup yields several lessons.

Biological Workup, a Tool for Screening Systemic Involvement:

In both cases, the discovery of renal failure on blood tests was the triggering element for the urological workup, leading to the diagnosis of RPF. This underscores the importance of systematic renal assessment in any patient with a hard goiter or suspected RT.

Thyroid Panel, Often Normal in the Initial Stage:

Case #1 confirms a well-documented fact: thyroid function is often preserved in the early phases of RT [3]. Hypothyroidism only occurs when more than 90% of the gland is infiltrated by the fibrous process.

Therefore, a normal thyroid panel should not rule out the diagnosis.

The Place of Inflammatory and Autoimmune Markers:

Although not detailed in our reports, a biological inflammatory syndrome (elevated ESR and/or CRP) is frequent in the active phase of the disease. Its measurement is useful for monitoring response to immunosuppressive treatment (corticosteroids). Conversely, thyroid autoantibodies (anti-TPO, anti-Tg) are generally absent or weakly positive, which helps distinguish RT from other autoimmune thyroiditis like Hashimoto's disease.

The Role of Biological Workup in Therapeutic Monitoring:

The treatment of RT and associated RPF relies on high-dose corticosteroids, sometimes combined with other immunosuppressants (tamoxifen, mycophenolate mofetil) [4]. Biological monitoring is then crucial: the normalization of renal function and the decrease in inflammatory markers are valuable indicators of therapeutic efficacy.

Limitations of Biological Workup and the Necessity of Histology:

The biological workup, although essential, remains non-specific. As our cases show, the definitive diagnosis imperatively relies on pathological examination, which shows the characteristic triad: dense fibrosis, inflammatory infiltrate, and vascular obliteration.

CONCLUSION

Riedel's thyroiditis is a rare entity that should be considered in any patient with a hard goiter, even in the absence of hypothyroidism. Its association with retroperitoneal fibrosis is frequent. The biological workup plays a pivotal role in the diagnostic process: it allows for the screening of renal involvement, assessment of thyroid status, and evaluation of systemic inflammation. Although not pathognomonic, it guides further investigations and is an indispensable tool for monitoring the response to immunosuppressive therapy. These two observations remind us of the importance of a multidisciplinary approach (endocrinologist, urologist, internist) for the management of this systemic disease.

Conflict of Interest: The authors declare that they have no conflict of interest.

RÉFÉRENCES

1. Hennessey JV. Clinical Review: Riedel’s thyroiditis: a clinical review. J Clin Endocrinol Metab. 2011.
2. Falhammar H, *et al.,* Riedel’s thyroiditis: clinical presentation, treatment and outcomes. Endocrine. 2018.
3. de Lange WE, *et al.,* Riedel's thyroiditis: report of a case. Neth J Med. 1989.
4. Dahlgren M, *et al.,* Riedel's thyroiditis and multifocal fibrosclerosis are part of the IgG4-related systemic disease spectrum. Arthritis Care Res (Hoboken). 2010.

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