Case presentation: A 16-year-old female patient was referred to the Endocrinology Division due to a recent growth of a mass in the cervical region involving the right lobe (RL) of the thyroid with 3 months of progress. She presented a neck tightness sensation and dyspnea on heavy exertion. On examination, she had a mass in the RL of the thyroid with 6 cm of extension and it exceeded the midline. Neck and chest computed tomography (CT) revealed an expansive homogeneous lesion extending from the anterior mediastinum to the cervical visceral space measuring 9.9 x 4.2 x 3.8 cm. Laboratory tests were normal except for acute phase proteins. Pathologic and immunohistochemical study of the biopsied tissue showed chronic inflammatory process associated with extensive collagen fibrosis, involving soft tissue and thyroid, suggesting Riedel’s thyroiditis (RT). Malignancy was ruled out. There was not a significant component of positive IgG4 cells. The patient received prednisone 60 mg, which was gradually reduced, and azathioprine 50 mg after 1 year. After 16 months of treatment, the patient is asymptomatic and the control image shows a reduction of the mass proportions.

Discussion: RT is a rare form of chronic thyroiditis of unclear etiology characterized by extensive fibrosis involving the thyroid gland and its surrounding tissues. It has an estimated incidence of 1.06 cases per 100,000 outpatients and is more common in women. RT usually presents as a firm mass in the neck with compressive symptoms: dyspnea, like our patient, dysphagia, vocal cord paralysis, and jugular thrombosis. Most cases are clinically euthyroid at presentation, but 30%-40% develop hypothyroidism because of progressively gland infiltration. Differential diagnosis includes anaplastic thyroid cancer and lymphoma. Image exams will only suspect RT since its diagnosis remains based on surgical biopsy. Treatment includes corticosteroids, immunosuppression, and tamoxifen. Surgery may be indicated to relieve tracheal or esophageal compression, but extensive resection is not recommended because of the lack of resection planes and risk of injury to adjacent adhering structure. Final comments: RT is a rare disease and it should be considered in patients with fibrosis on the neck with normal thyroid function or hypothyroidism at presentation. The case described above had its diagnosis based on findings of examination, imaging and it was confirmed by biopsy, which is the gold standard method for diagnosis.