Abstract
Plasmacytoma is a tumor with monoclonal proliferation of neoplastic plasma cells. It includes two categories of presentation: primary bone plasmacytoma and extramedullary soft tissue plasmacytoma, with a greater predisposition in the head and neck, commonly in the aerodigestive tract. Thyroid involvement is rare but should be considered in the differential diagnosis of a rapidly growing thyroid nodule. The diagnosis is established through the correlation between pathological and immunocytochemical findings, with surgical intervention being the recommended treatment modality. The objective of this study is to report a case of a patient with rapidly growing goiter and a diagnosis of thyroid plasmacytoma.

Keywords: plasmacytoma; goiter; head and neck neoplasms; case report.

Introduction
Plasma cell tumors are malignant pathologies that can manifest with various lesions such as multiple myelomas or as a single mass. This cellular proliferation is more observed in the bone.

The factors for multiple or single presentation are unknown, but it is suspected to be related to the variety of cell adhesion molecules and the variability in the expression of chemokine receptors located on malignant plasma cells. The age of presentation is around the fifth and sixth decade of life with a tendency towards men; however, when evidenced in the thyroid tissue, the predisposition is established in women. Long-term survival is possible, with the therapeutic options being radiotherapy to soft tissues and thyroidectomy in cases of thyroid plasmacytoma since they have fewer therapeutic complications.

Case report
A 60-year-old female patient, with an uncomplicated personal and family history, having a goiter with rapid enlargement in the last twelve months. The patient reported concurrent symptoms of dyspnea, dysphonia, and dysphagia. The physical examination revealed a goiter with a firm, painless mass, with smooth edges, adherent to deep planes, within the left lobe and isthmus of the thyroid gland, without cervical lymphadenopathy with a positive Pemberton sign (Figure 1).
Laboratory tests were within normal limits with euthyroidism without reporting anemia, kidney involvement, and calcium alteration. Ultrasound revealed the presence of a mass dependent on the left thyroid lobe measuring 73×49×64 mm with the identification of three hypoechoic nodules of 6 mm, 15×14 mm, and 35×21 mm respectively. Two lobulated hypoechoic nodules measuring 6 to 7 mm were observed in the right lobe. Computed tomography of the neck showed a tumor growth on the left side of the thyroid measuring 11.7×75×70 cm that compresses and displaces the adjacent structures with extension towards the upper mediastinum. Fine needle aspiration was performed with a Bethesda I result, so a Core Biopsy of the thyroid mass was requested, which reported poorly differentiated neoplasia with the presence of atypical infiltration of plasma cells, so a total thyroidectomy plus central lymph node emptying was performed. Cervical lymphatics. Surgical exploration revealed a left thyroid lobe measuring 13×6×7 cm adhered to the sternocleidomastoid muscle with a mediastinal component and increased lymph nodes suspicious of malignancy (Figure 2).

Figure 1. 60-year-old women with the presence of cervical masses dependent on the left thyroid lobe.

Figure 2. Total thyroidectomy. Note the significant increase in the size of the left thyroid lobe, measuring approximately 13×6×7 cm.
The histopathological study plus immunohistochemical and cytochemical analysis confirmed the diagnosis of plasma cell neoplasia plus Hashimoto's thyroiditis with the presence of a central lymph node infiltrated by neoplastic cellularity with positivity for CD138 and Kappa (Figure 3).

![Figure 3. A - Histological slide of thyroid tissue, Hematoxylin/Eosin staining, 40x magnification, showing plasma cells with morphological atypia. B - Histology slide demonstrating CD138 immunohistochemistry of plasma cells. C - Illustration of 3 Kappa light chains in immunohistochemistry of plasma cells.](image)

The post-surgical evolution was favorable with adequate pain control, vital signs within normal limits, tolerating the diet, no signs of hypocalcemia, no alteration in voice tone, and discharge was indicated after 24 hours. In the postoperative control, extension studies were requested, excluding other lesions associated with plasma cells, which included bone marrow histopathology, ruling out multiple myelomas. One year after surgery, the patient was asymptomatic with no evidence of disease recurrence. The authors declare that written consent was obtained from the patient before the publication of this case and as this is a case report, no human participants were involved in a study. We have the approval of the institutional Ethical Review Committee.

**Discussion**

Plasmacytomas are neoplasms characterized by clonal proliferation of plasma cells. Its presentation may be unique in the case of solitary plasmacytoma or manifest with several lesions in multiple myelomas. Solitary plasmacytomas are more common in the bones where they are called bone plasmacytomas, or when they are found in soft tissues they are known as solitary extramedullary plasmacytoma (PES), the reason why they can develop as multiple lesions or a single lesion is known. However, it is proposed that there is a relationship between cell adhesion molecules and the expression of chemokine receptors in cancer plasma cells\(^1,2\).

PES represents approximately 3-5% of plasma cell-dependent malignant cell neoplasms, they are most frequently found in the head and neck region, mainly in the upper digestive airway, thyroid tissue, parotid, and lymph nodes, central nervous system, breast, testicle, bladder, and skin. The age of presentation is around the fifth and sixth decade of life with a tendency towards men; however, when evidenced in the thyroid tissue, the predisposition is established in women, as in the case of our patient\(^2\).

The presence of plasma cells in thyroid tissue is rare, so thyroid plasmacytoma is considered a rare neoplastic entity, which leads to a lack of accuracy in its
incidence. It is characterized by the presence of rapidly growing thyroid nodules, the symptoms are related to the location and size of the mass, and symptoms generally manifest due to the compression of adjacent structures. In the presence of a nodule dependent on the thyroid gland, a cytological study by puncture is initially requested; however, the findings are limited, so the diagnosis is based on the determination of clonal plasma cells in the histological study with the combination of positive immunostaining for Kappa or Lambda chains, and positivity for CD138 and CD38. Cases of plasmacytomas have been reported in a pattern of Hashimoto's thyroiditis, contemplating the possibility of the chronic autoimmune inflammatory process as an autoimmune or chronic inflammatory process causing thyroid plasmacytoma. Likewise, tests are requested to rule out other types of plasma cell lesions, confirming the absence of lytic lesions, no hypercalcemia, no renal alteration, no anemia, and confirming cellular normality in the bone marrow.2,3 The patient in the case presented in the pathology a monoclonal presence of plasma cells with positivity for Kappa chain and CD138, in addition to the absence of pathology in other organs.

Among the therapeutic options we have radiotherapy covering at least 2 centimeters of surrounding tissue with doses of 40 to 50 Gy for 4 weeks with a recurrence of the disease of 7% and surgical resection performing a thyroidectomy considering that in the hands of surgeon's experts present fewer complications than radiotherapy; however, as it is a rare pathology, information is limited. Follow-up should be performed every three months during the first two years and then every six months for three more years, requesting complete blood count, creatinine, serum calcium, and monoclonal serum protein, in addition to imaging control every 6 to 12 months requiring the same imaging modality image that was requested before therapy. In cases of suspicion of residual disease or recurrence after surgery, post-surgical radiotherapy is indicated or in cases of initiation of treatment with radiotherapy and evidence of local recurrence of the disease, surgery is chosen. Patients with distant recurrence are defined as having a diagnosis of multiple myelomas. Between 10 and 15% of patients with solitary extramedullary plasmacytoma may develop multiple myelomas. The 5-year survival is 40 to 85% with a better prognosis for patients with head and neck tumors.3,4

References