A 59-year-old man with primary thyroid leiomyosarcoma: A case report.

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Abstract

Introduction: Leiomyosarcoma is a rare tumor of the thyroid gland. The preoperative diagnosis with fine needle aspiration is difficult. It can be either primary or metastatic.
Case presentation: A 59-year-old man presented with a rapidly progressive rubbery mass-like lesion in the anterior part of the neck in about 6 months accompanied by weight loss. He was euthyroid and had a family history of papillary thyroid cancer in his uncle. Total thyroidectomy was performed, and pathologic findings demonstrated primary thyroid Leiomyosarcoma (LMS). After tumor surveillance and oncology consultation, he was planned for chemotherapy.
Conclusion: Leiomyosarcoma should be suspected in any rapidly progressive mass in the anterior part of the neck. Anaplastic, medullary thyroid carcinoma and metastatic source are among the differential diagnoses. Thyroidectomy may be required for definite diagnosis. There is no consensus regarding the optimal treatment. Despite advanced diagnostic and treatment approach, prognosis is poor.

Keywords: Leiomyosarcoma, Thyroid, Cancer.

Introduction

Sarcomas are very rare group of tumors within thyroid malignancies [1]. Thyroid sarcoma is divided into liposarcoma, leiomyosarcoma, and angiosarcoma [2-4]. Primary thyroid leiomyosarcoma (LMS) is rare and includes just 0.014% of all primary thyroid cancers [5]. First manifestation in most cases is rapidly enlarging anterior neck mass with normal thyroid function test [6]. Making preoperative diagnosis of thyroid leiomyosarcoma and differentiating it from anaplastic thyroid carcinoma and medullary thyroid carcinoma are too difficult [1,7]. Unfortunately, despite various treatments including surgery, adjuvant radiotherapy, and chemotherapy, this tumor has poor prognosis and neither prevents the recurrence nor improves the survival. [3, 7-9]. The aim of this study is presentation of a case of primary thyroid LMS to increase clinical suspicion about this entity and save time to better manage and reduce the morbidity.

Case presentation

A 59-year-old Iranian, married man who resided in Shiraz, Fars Province, in the south of Iran presented with progressive painful mass-like lesion in his neck appearing 6 months before his referral. He complained about abdominal distress, odynophagia, and weigh loss about 4 kg in 20 days. His weight was 69 kg, height 181 cm, blood pressure 120/80 mmHg, and pulse rate 74 beat/min. His general physical examination was unremarkable other than a rubbery mass-like lesion in the left thyroid lobe. There was no erythema, no exophthalmos, and no lymphadenopathy.

A review of his medical history revealed that he suffered from renal colic due to renal stone and was prescribed a variety of NSAID. Unilateral orchiectomy had been performed 7 years ago due to orchitis. He did not have any other significant past medical history and no history of neck radiation. The patient's social history was negative for cigarette smoking or alcohol use.

His family history was considerable for metastatic papillary thyroid cancer of his uncle, who had passed away the year before. Barium swallow was done, showing that oro-pharyngeal, cervical, and thoracic esophageal stages were normal without any mass lesion and obstruction. Thyroid and neck sonography revealed the left thyroid lobe about 49*31 mm with heterogeneous and coarse echo texture without microcalcification, and the right thyroid lobe 32*13 mm with normal and homogeneous parenchymal echogenicity without any definite thyroid nodule.

Figure 1 shows the histopathological section and immunohistochemical staining of the thyroid tissue. Fine needle aspiration and cytology of the left thyroid lobe were

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***Received:** 31-Mar-2022, Manuscript No. AACOCR-22-59149; **Editor assigned:** 04-Apr-2022, PreQC No. AACOCR-22-59149(PQ); **Reviewed:** 18-Apr-2022, QC No. AACOCR-22-59149; **Revised:** 20-Apr-2022, Manuscript No. AACOCR-22-59149(R); **Published:** 27-Apr-2022, DOI:10.35841/aacocr-5.2.107*

***Citation:** Behdadnia A, Jeddi M, Dehghanian A, et al. A 59-year-old man with primary thyroid leiomyosarcoma: A case report. Allied J Clin Oncol Cancer Res. 2022;5(2):107*

progressive neck mass and positive family history of thyroid cancer, we were highly suspicious of thyroid malignancy; therefore, total thyroidectomy was done and it confirmed the diagnosis. Fortunately, all margins were negative for malignancy and none of the lymph nodes was involved. This case demonstrates the importance of proceeding to operative biopsy to save the time in cases where aspiration cytology is not consistent with clinical diagnosis.

The main histopathological differential diagnosis of thyroid LMS includes thyroid anaplastic carcinoma and a spindle cell variant of medullary thyroid carcinoma [8]. Both of them histologically demonstrate spindle cells and have positive immune stains for keratin, while medullary carcinomas also display reactivity to thyroid transcription factor-1, neuron-specific enolase, chromogranin (A,B and C), synaptophysin, opioid peptides, and calcitonin. In most cases, a diagnosis of thyroid LMS has been established after negative immune stains for keratin, while smooth muscle markers, such as desmin, actin, or vimentin, had been found positive [5].

In our case, positive immune staining for desmin confirmed the diagnosis. In tumor surveillance, our patient had a small nodule in his left lung. In the literature, lungs are the most metastatic site [5,18]. It is worth knowing that there are only five cases, which reported metastatic lymph node; this completely differs from anaplastic thyroid cancer, which commonly metastasizes to the lymph nodes [5]. Our patient did not have any involved lymph node.

Conclusion

Primary thyroid leiomyosarcoma is very rare among thyroid malignancy and must be considered in patients with rapidly progressive mass-like lesion in the anterior neck. Differential diagnosis is anaplastic carcinoma and variants of medullary thyroid carcinoma and metastatic source. It should be kept in mind that preoperative diagnosis is very difficult, FNA may be non-diagnostic, and thyroidectomy (hemi or total) and immunohistochemistry are often required for definite diagnosis. It is preferred that these patients be managed in a multidisciplinary team setting. Treatment options include thyroidectomy, radiotherapy, systemic chemotherapy, and best supportive care. Unfortunately, despite all diagnostic and treatment options, this diagnosis has an extremely poor prognosis.

Conflicts of interest

The authors have no conflicts of interest to declare that are relevant to the content of this article.

Acknowledgements

The authors would like to thank Shiraz University of Medical Sciences, Shiraz, Iran and also Center for Development of Clinical Research of Nemazee Hospital and Dr. Nasrin Shokrpour for editorial assistance.

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