J Endocr Surg. 2023 Dec;23(4):133-136
https://doi.org/10.16956/jes.2023.23.4.133
pISSN 2508-8149·eISSN 2508-8459

JES Journal of Endocrine Surgery

Short Communication

Incidental Finding of a Small Schwannoma Originating From the Recurrent Laryngeal Nerve During Thyroidectomy: A Case Report

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Received: Dec 6, 2023
Revised: Dec 18, 2023
Accepted: Dec 19, 2023
Published online: Dec 27, 2023

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ABSTRACT

Schwannomas are rare tumors that originate from peripheral nerves of the nerve root sheath, mostly in the head, neck, or extremities. Schwannomas originating from recurrent laryngeal nerves are rare. Herein, we report a case of a mass in the recurrent laryngeal nerve, expected to be a schwannoma, incidentally found during thyroidectomy in a patient with thyroid cancer. No surgical treatment was performed for the tumor, and the patient is currently under close observation without any symptoms before or after the surgery.

Keywords: Schwannoma; Recurrent laryngeal nerve; Thyroid cancer

INTRODUCTION

Schwannomas are benign tumors that arise from perineuronal Schwann cells and generally grow slowly. The highest prevalence of Schwannomas is reported among patients in their 50s to 60s (1). As per reports, 25%–45% of schwannomas occur as benign tumors in the extracranial head and neck region (2).

The occurrence of schwannomas in the larynx is uncommon, accounting for 0.1% of all benign laryngeal tumors (3). The rarity and unremarkable symptoms of these tumors often complicate preoperative diagnosis (4). In this report, we describe a rare case of a neurogenic tumor originating from the recurrent laryngeal nerve in the neck that was suspected to be a schwannoma.

Written informed consent was obtained from the patient for the publication of this case report and the accompanying images.

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Conflict of Interest
No potential conflict of interest relevant to this article was reported.

Author Contributions
Conceptualization: Yong Sang Lee; Supervision: Jin Seok Lee, Hyeok Jun Yun, Yong Sang Lee, Hang-Seok Chang; Writing - original draft: Gyu Hwa Kim, Ho Jung Jeong; Writing - review & editing: Ho Jung Jeong, Yong Sang Lee.

CASE REPORT

1. Patients

A 53-year-old male patient was referred to our hospital because of suspected thyroid cancer detected during routine health screening with fine-needle aspiration biopsy. The patient reported no symptoms, such as dysphagia, dyspnea, or hoarseness.

The patient had no remarkable past illness. Physical examination revealed no remarkable findings. Thyroid and parathyroid function test results were normal. Ultrasonography showed a hypoechoic nodule with extracapsular extension about 0.8×1.0 cm in the left thyroid lobe (**Fig. 1**). The mass was confirmed to be a category V suspicious malignancy on fine-needle aspiration biopsy. Computed tomography revealed no suspicious metastatic lymph nodes in the neck (**Fig. 1**).

Bilateral total thyroidectomy with central compartment node dissection was safely performed. During the dissection of the left recurrent laryngeal nerve, a mass originating from the nerve was incidentally identified by the surgeon (**Fig. 2**). No biopsy, enucleation, or further dissection of the mass was performed.

The patient's postoperative recovery was uneventful, and the patient did not report any hoarseness following the surgery. The patient is currently being followed up, with no signs of recurrence or symptom manifestations.

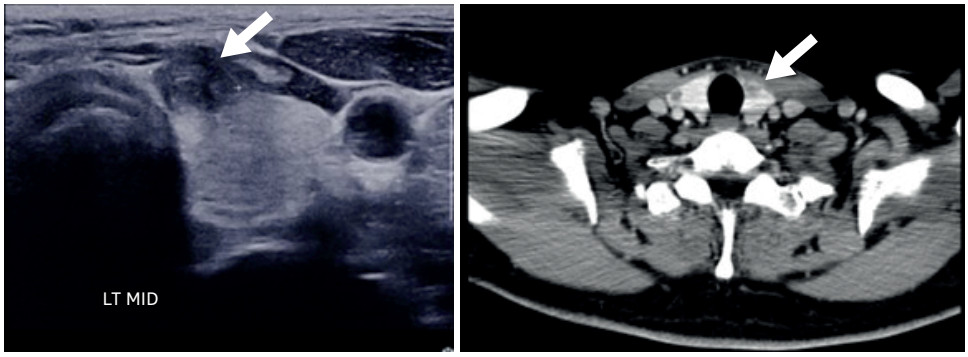

Fig. 1. Imaging findings of cancer in the left thyroid lobe.

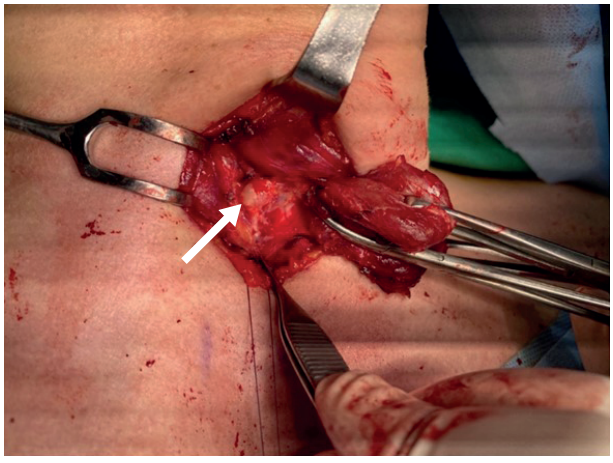

Fig. 2. Schwannoma originating from the left recurrent laryngeal nerve.

https://doi.org/10.16956/jes.2023.23.4.133

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2. Pathology findings

In the right lobe of the thyroid gland, there is a conventional papillary microcarcinoma with an infiltrative margin, measuring 0.4 cm in the mid-portion/lower pole, showing intrathyroidal involvement, absence of psammomatous calcification, and an associated benign lesion of adenomatous hyperplasias. In the left lobe, a corresponding papillary microcarcinoma with similar features, including a conventional histologic subtype, infiltrative margin, 0.8 cm size in the mid-portion, intrathyroidal involvement, absence of psammomatous calcification, and an associated benign lesion of degenerative fibrotic nodule was identified.

DISCUSSION

Peripheral nerve tumors are a heterogeneous group of benign tumors that rarely occur in the general population. Its symptoms are caused by direct nerve invasion, involvement of the surrounding tissue, and mass effects. They may present with soft tissue masses, pain, or focal neurological findings. The duration and progression of symptoms can indicate whether a tumor is malignant. Magnetic resonance imaging is the most useful imaging modality for the diagnosis of peripheral nerve tumors; It can be used to determine malignancy and specific types of features. However, preoperative diagnostic evaluations are often limited in their ability to detect small schwannomas originating from the recurrent laryngeal nerves (4). The treatment of peripheral nerve tumors largely relies on surgical removal; however, not all patients require surgery. Asymptomatic schwannomas and other tumors without signs of malignancy can be observed without surgical intervention (5).

Schwannomas are encapsulated tumors composed entirely of benign neoplastic Schwann cells (6). They are the most common tumors affecting peripheral nerves and typically do not undergo malignant transformation. According to the literature, 25%–45% of schwannomas are located in the head and neck region (7). It is extremely rare for schwannomas to originate from the recurrent laryngeal nerve, with only a few reports describing schwannomas originating from this nerve in the mediastinum (8-10). Among these previous reports, two patients complained of vocal cord paralysis, which improved after surgical resection of the tumor. In another case, although there were no symptoms, the patient experienced hoarseness as a sequela after tumor removal. Only one report has described the incidental discovery of a schwannoma during thyroidectomy, where the patient presented with hoarseness and the mass was surgically removed.

In the present case, the tumor was exceptionally small, making radiological detection difficult because of the unique characteristics of the recurrent laryngeal nerve. As a result, the presence of a tumor could not be anticipated, as there were no symptoms associated with nerve invasion. Based on the macroscopic characteristics and schwannomas being the most common peripheral nerve tumors, we believe that the tumor was likely a schwannoma. As there were no symptoms and there was no need to subject the patient to the potential risks of unnecessary surgery, biopsy or surgical resection was not considered in this case.

In conclusion, surgeons may incidentally encounter schwannomas during thyroidectomy. However, surgical intervention may not be necessary in cases where symptoms are absent.

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