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Case Report

Neurilemoma of the Cervical Plexus: A Rare Case Report and Literature Review

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Introduction

Brachial plexus schwannoma is a rare cause of chronic cervical mass. It is a benign tumor developed from Schwann cells in the nerve[1]. It is common in the cervical region, especially in the acoustic and vagus nerve. We present a case of the brachial plexus neurilemoma with a literature review.

Case Report

We report the case of a 13-year-old female patient with no medical history who presented to our department with a 5-month history of painless cervical swelling located on the left side. No signs of cervical compression were reported. The clinical examination revealed a polylobed firm mass of the left supraclavicular region. It exhibited greater mobility in superficial layers but showed limited mobility in deeper layers with no skin changes. The rest of the oto-rhino-laryngoscopy examination revealed no abnormalities. The ultrasonography showed multiple well-limited later cervical nodes with regular contours with thickened cortex, the largest measuring 2.5 cm × 4 cm. The structures repress the internal jugular vein, which remains permeable. The radiological exploration was complemented by a computed tomography revealing multiple lymph node-like structures of the left supraclavicular region measuring 2 cm × 3.8 cm in diameter **(Figure 1)**.

The fine needle aspiration cytology (FNAC) of the mass indicated atypia of undetermined significance. Therefore, the decision was made to proceed with surgical resection. A lateral cervical incision was performed posterior to the sternocleidomastoid muscle. The omo-hyoid muscle was quickly identified after flap dissection. The mass was distant from the neurovascular bundle and easily dissected from the surrounding structures. A complete excision was successfully performed **(Figures 2 and 3)**.

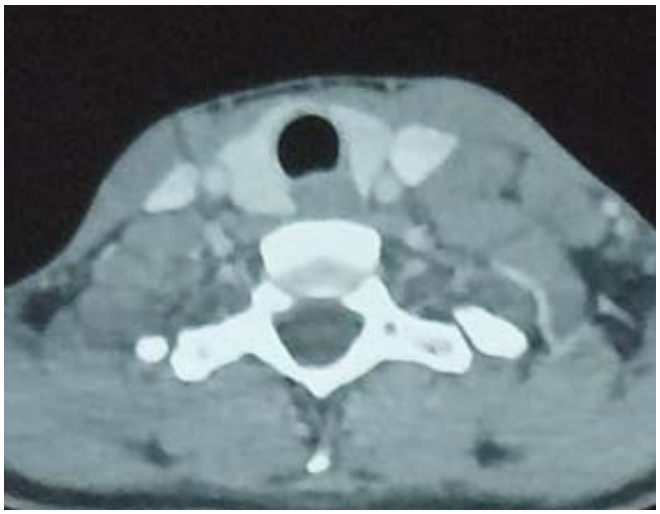

Figure 1: Axial CT scan.

The histology report indicates a nodular mass with necrotic rearrangement. The tumor proliferation exhibited spindle-shaped cells with elongation and an absence of mitosis. The diagnosis of neurilemoma was favored[2,3] **(Figure 4)**.

The post-operative recovery was uneventful. Following a 1-year follow-up, the patient showed no signs of recurrence.

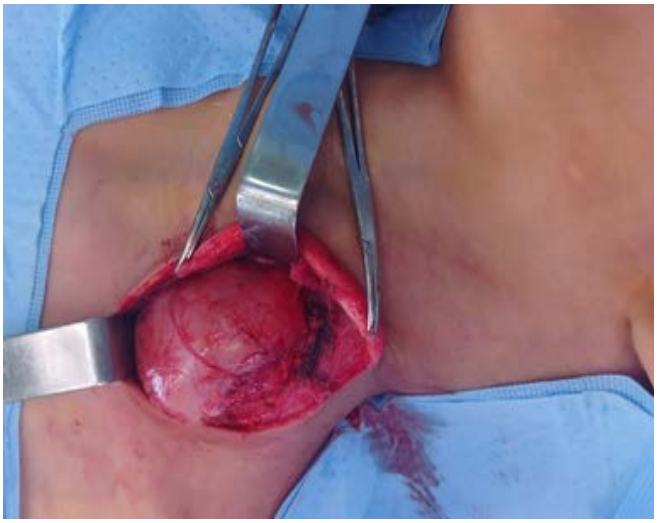

Figure 2: The mass was discovered following a lateral cervical incision made posterior to the sternocleidomastoid muscle.

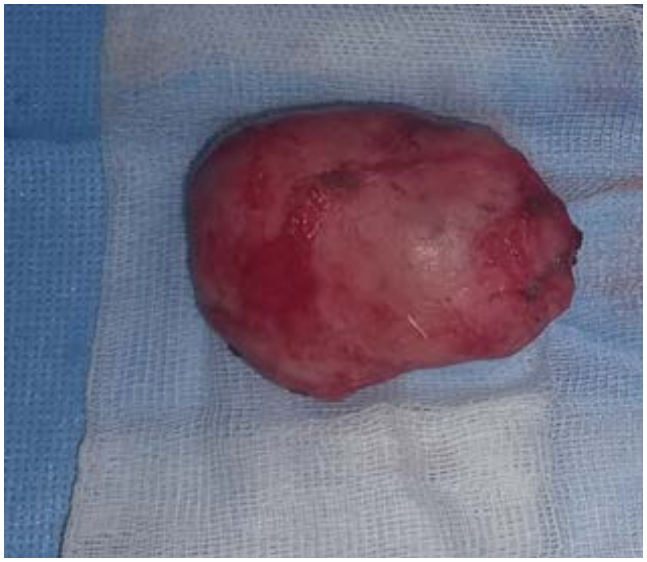

Figure 3: Excised mass before being sent for anatomopathological study.

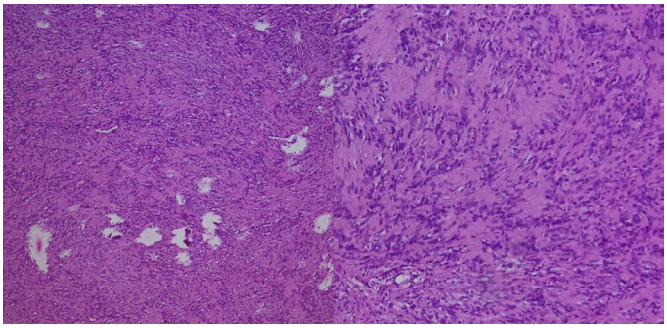

Figure 4: H&E stained sections of the surgically resected tumor (×20 and ×40 magnification) revealed cytological bland spindle cells with vague nuclear palisading and a fibrillary background.

Discussion

Schwannomas of the brachial plexus are considered peripheral nerve sheath tumors[4]. They usually arise sporadically as benign tumors, although they are a principal aspect of the two main hereditary tumor diseases, neurofibromatosis type 2 and schwannomatosis[5]. Schwannomas are encapsulated, slowly growing tumors, mobile with commonly no associated neurological deficit, unlike malignant peripheral nerve sheath tumors, which often produce neurological deficits[6]. The brachial plexus could be studied by ultrasound, evaluating effectively the branches of the brachial plexus and surrounding soft tissues[7]. CT scans can be used to differentiate vasogenic tumors and to exclude metastatic tumors[8]. MRI is the reference type imagery to diagnose brachial plexus problems[9], even if it was not demanded in our case because the patient did not have health insurance.

Fine needle aspiration and biopsy should be limited if the diagnosis is clinically suspected due to the risk of neurological damage to the nerve fascicules[10]. La FNAC usually shows the presence of spindle-shaped cells and Schwann cells.

Treating both malignant and benign brachial plexus tumors is essentially surgical, and schwannomas are no exception[11]. Several surgical incisions are proposed depending on tumor size and location. In our case, we made an anterior supraclavicular incision, which is convenient for tumors involving the trunk and roots[11,12]. The surgical procedure consists of complete resection of the tumor with conservation of the surrounding nerves, and enucleation is always possible[13].

The postoperative outcome depends on the grade of resection and the pathological aspect of the tumor; that's why Tang et al. reported 3 cases of numbness and paresthesia after the resection of relatively small tumors[14].

Conclusion

This case reminds us that schwannomas of the brachial plexus are a differential diagnosis in supraclavicular tumors. MRI and FNAC could be used in the diagnostic process, but the confirmation is anatomopathological. Two main treatment objectives are complete surgical resection and preservation of nerve function.

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