Case Report

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Supraclavicular nerve schwannoma: a rare differential diagnosis for a neck lump

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ABSTRACT

Supraclavicular schwannomas are very rare benign tumours. We present the case of a 30-year-old middle-eastern man who complained of a gradually enlarging, asymptomatic 2cm non-tender swelling in the right supraclavicular fossa. There were no other symptoms suggestive of systemic disease. Ultrasound imaging was suggestive of an abnormal lymph node, but fine needle aspiration cytology of the lump was inconclusive. Subsequent urgent excision biopsy of the lump on histology revealed it to be a benign schwannoma. On post-operative follow-up, the patient did not have any neurological deficit.

Keywords: Benign neck lumps, Extracranial schwannoma management, Neck lump differentials, Excision biopsy, Supraclavicular nerve, Schwannoma

INTRODUCTION

Supraclavicular nerve schwannomas are very rare in occurrence such that case reports are scarce in the literature. Schwannomas are benign nerve sheath tumours that arise from Schwann cells which surround the peripheral nerve. They are neuroectodermal in origin, containing no axonal or perineural tissue and can arise in the head and neck region. Therefore, their rarity and intimate relationship to the nerve of origin pose a surgical challenge. ^{2,3}

They are more common in the twenty to forty-year age group. 4 Up to 45% of extra-cranial schwannomas occur in the head and neck region. 3 Supraclavicular nerve schwannomas are often easily mistaken for lymph nodes because of the clinical physical signs and radiological appearance. Fine needle aspiration can be utilised with a combination of diagnostic imaging modalities namely

ultrasound, computed tomography, and magnetic resonance imaging.

Complete surgical resection is the recommended management. These encapsulated tumours are yellow or grey in appearance and are of a round or oval shape. Macroscopic appearances of the schwannoma are similar to localised neurofibroma, which are characterised by the presence of varying amount of cellular elements and collagen but localised neurofibromas are not encapsulated. Histological appearances are key in differentiating the schwannoma from its differentials.

CASE REPORT

A 30-year old gentleman of Arab origin presented with an eight month history of a gradually enlarging, nontender lump in the right supraclavicular fossa. He denied any right upper limb or cervical neurological deficit and reported no weight loss, anorexia, or night sweats. The patient had successfully been treated for tuberculosis 15 years prior to presentation and had a tonsillectomy at the age of 3 years.

On examination, he looked generally well. Neck examination revealed a 2 cm firm, rubbery, non-tender, mobile mass in the right supraclavicular region. No other masses were palpable within the axillary, inguinal or abdominal regions. There were no skin or subcutaneous lesions noted. The patient's routine blood tests were all within normal limits.

An initial ultrasound scan reported a hypoechoic, rounded lump demonstrating internal vascularity suggestive of an abnormal right level 5b lymph node within the supraclavicular fossa. A fine needle aspirate was performed, but the cytology was inconclusive due to poor sample. Due to the inconclusive nature of the lump and to prevent delay in treatment, an urgent excision biopsy was performed rather than request a CT scan or MRI scan. Intra-operatively, the lump was found to be adjacent to, but not adherent to, the right external jugular vein. A supraclavicular nerve was terminating into the lump, which was macroscopically white, firm, rubbery with a smooth capsule (Figure 1). It was excised in its' entirety and the remnant nerve cut. Primary closure of the wound was undertaken and the patient was discharged a few hours post-operatively following an uneventful recovery.

Histology reported that the lump measured 30x20x20 mm and sections showed a benign schwannoma. At the 3-week post-operative follow up, the patient's wound had healed well and there was no residual sensory or motor neurological deficit.

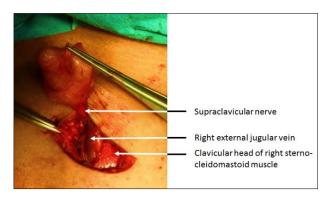


Figure 1: The supraclavicular nerve schwannoma taken intra-operatively.

DISCUSSION

Supraclavicular nerve schwannomas are of very rare occurrence. These benign nerve sheath tumours mostly arise from the brachial plexus, with only 5% located in the supraclavicular region.⁵ Malignant change is rare.⁶ These encapsulated tumours are yellow or grey in appearance and are of a round or oval shape.⁴ Patients with supraclavicular nerve schwannomas most commonly

present with a slow, locally growing neck lump which can be associated with pain, numbness, or functional loss in the distribution of the involved nerve.³

Supraclavicular nerve schwannomas can be easily misdiagnosed as an enlarged supraclavicular lymph node. Fine needle aspiration can be utilised with diagnostic imaging modalities, which include a combination of ultrasound, computed tomography, and magnetic resonance imaging. Magnetic resonance imaging provides the greatest comparison to operative findings in detailing the extent of the extra-cranial schwannomas. Immunohistochemistry diagnosis has shown intense straining for s-100 in schwannomas.

Complete surgical resection is advised for rapidly growing tumours with or without the presence of neurological deficit, and in those that cause discomfort.

Post-operative complications include the development of new motor deficit and pain attributed to oedema and insult to the peripheral nerve.

This neurological deficit often resolves with time.

In our patient's case, the resection was undertaken as a day case procedure without inflicting any neurological deficit.

CONCLUSION

Supraclavicular nerve schwannomas can easily be clinically and radiologically mistaken for lymph nodes. We have presented a case where inconclusive biopsies of a neck lump resulted in the decision to perform excision biopsy of the lesion. Intra-operatively, there appeared to be a nerve terminating at the lesion, which was histologically confirmed to be a schwannoma.

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