



Case Report:

Axillary Schwannoma: Diagnosed on Fine Needle Aspiration Cytology

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Abstract:

Schwannomas affect mainly head, neck and flexor aspect of the limbs. Axillary Schwannoma is extremely uncommon, that is neurogenic tumors arising from brachial plexus are rare. We report one such rare case of a solitary axillary Schwannoma which was diagnosed on fine needle aspiration cytology (FNAC) and subsequently confirmed by histopathological examination. Clinically it was diagnosed as axillary lymphadenopathy and FNAC was advised to rule out granulomatous lymphadenitis.

Key Words: Schwannoma; Fine needle aspiration cytology (FNAC)

Introduction:

Schwannomas, also referred as neurilemmomas, are benign, encapsulated perineural tumor of neuroectodermal derivation that originates from the Schwann cells of the neural sheath of motor and sensory peripheral nerves. The etiology is still unknown.¹ In 1910, Verocay, first described a group of neurogenic tumors and referred them as "neurinomas". In 1935, it was proposed that these tumors arise from nerve sheath elements and they were termed as "neurilemmomas".² About 25% of the Schwannomas occur in the Head and Neck region,³ usually involving cranial nerves and sympathetic chain, however brachial plexus Schwannoma are uncommon.⁴⁻⁶

Primary tumors of the brachial plexus are an unusual cause of axillary mass. Here we report a case of axillary mass, clinically diagnosed as axillary lymphadenopathy, further confirmed on FNAC as solitary axillary Schwannoma. This case has been reported for its rare and unusual site and for cytodiagnosis of the lesion.

Case Report:

A 48 years old male was presented with a right axillary swelling of one year duration with gradual increase in size. There was no history of trauma, pain, altered or localized loss of sensation. Past, personal and family history was non-contributory. On general examination, patient was found to be averagely built and averagely nourished. Local examination of right axillary region revealed a smooth, firm, non tender swelling of 3 x 2 cms in size. The hematological and biochemical parameters were within normal limits. Clinical diagnosis was undistinguishable from the most common axillary lymphadenopathy.

FNAC was advised by the clinician to rule out granulomatous lymphadenitis. FNAC was performed using a 23 gauge needle. After hitting a lesion, sharp pain was experienced by the patient and further second attempt of FNAC was not possible. With this clue, a possibility of neurogenic tumor was considered.⁷ Both Hematoxylin, Eosin and Leishman smears were prepared. Cytology showed cellular smears with cohesive clusters and aggregates of spindle shaped tumor cells and Schwann cell processes. Individual cells were elongated, round to spindle shaped with elongated, slender, vesicular nuclei with ill defined eosinophilic cytoplasm (Figure 1). At many places, palisading of the tumor cell nuclei were noted on a fibrillary myxoid material background (Figure 2,3). Cytological impression was given as benign spindle cell tumor suggestive of Schwannoma of right axillary region.

The lesion was excised by the surgeon and gross examination revealed a well encapsulated mass measuring 3 x 2 x 2 cms in size. The cut section was gray -white to gray- yellow, soft and fleshy in appearance. Multiple Hematoxylin and Eosin sections showed, cellular regions with benign spindle Schwann cells in many interlacing bundles (Antoni A tissue), palisading around eosinophilic regions called as Verocay body and other hypocellular areas of spindle cells admixed with myxomatous stroma (Antoni B tissue) (Figure 4). Final histopathological diagnosis of axillary Schwannoma was made.

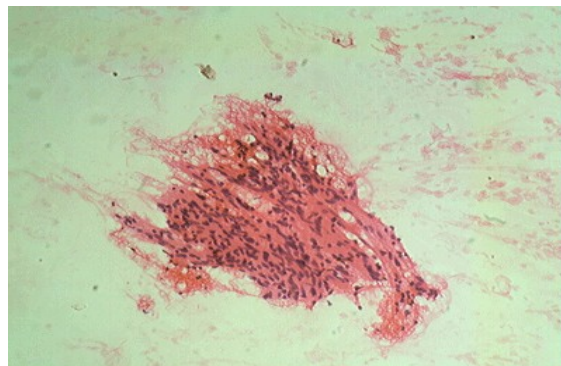


Figure 1: Cytological features of axillary Schwannoma showing benign spindle cells having elongated, slender, vesicular nuclei with ill defined eosinophilic cytoplasm (H and E, x400)

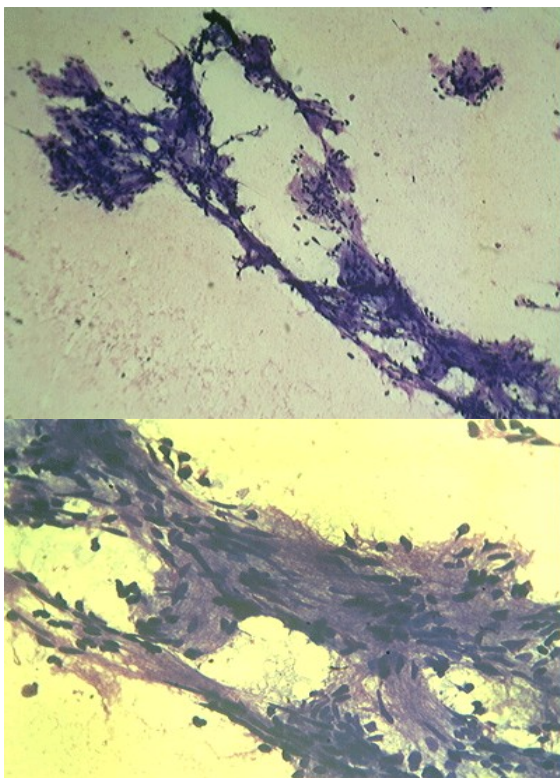


Figure 2,3: The tumor cell nuclei show peripheral palisading on a fibrillary myxoid background (Leishman, x100,x400)

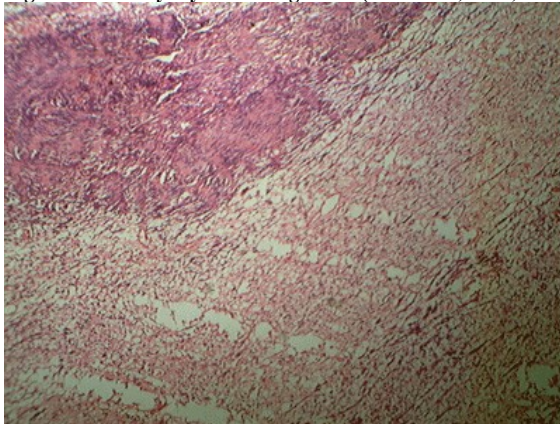


Figure 4: Microphotograph of histological section of axillary Schwannoma showing Antony type A cells and Antony type B cells. (H and E, x100)

Discussion:

Schwannoma is a slow growing tumor that usually of peripheral nerves or spinal roots. It is solitary, firm, well circumscribed, encapsulated round or ovoid tumors.³ Any part of the body can be affected mainly head and neck region, but localization in the axilla is very unusual.^{5,6} Primary tumors of brachial plexus are rare and usually present with cervical mass with or without thoracic extension.^{7,8}

Schwannoma can occur at all ages but most commonly in the age group of 20 to 40 years with female preponderance.⁹ The present case was a 48 years old male presented with axillary swelling which was clinically diagnosed as axillary lymphadenopathy and FNAC was advised to rule out granulomatous lesion. Cytomorphological features of FNA smears of Schwannoma have been described in the literature as spindle cells with fibrillary background, palisading nuclei (Verocay bodies) etc. However there are several pitfalls for the diagnosis of neural lesion on cytology.⁹

Diagnosis and classification of soft tissue tumor is one of the most difficult areas in surgical pathology. The relative absence of recognizable tissue architectural pattern in cytological preparation makes diagnosis by FNAC even more difficult.¹⁰ However we made cytological diagnosis of spindle cell tumor – Schwannoma and subsequently confirm it on histopathology

Differential diagnosis of these tumors mostly include axillary lymphadenopathy, fibroma, lipoma, parapanangioma, vascular tumors etc. And cytologically we can differentiate above lesions. Because Schwannoma are benign in nature, complete surgical excision is the treatment of choice, so that recurrence rate are extremely rare.

To conclude, we have presented a case of axillary Schwannoma diagnosed on fine needle aspiration cytology. This rare neoplasm in this location could present diagnostic misinterpretation. So the pathologist should make sure to take its occurrence into account especially when evaluating cytological smears.

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