



## Ancient Schwannoma of the Brachial Plexus

SIDDARTHA

Department of General Surgery,  
CHENGALPATTU MEDICAL COLLEGE

**Abstract :** Ancient schwannomas are schwannomas with degenerative changes. Schwannomas most commonly arise from the peripheral nerve sheath. We report a 33 yr female patient who presented with a swelling in the right axilla of 6 months duration. Her hematological investigations were normal, but her specific investigations of the swelling were not conclusive. On exploration of the right axilla, the swelling was found to be entangled in the brachial plexus. After careful dissection, enucleation of the swelling was done. Histopathological examination of the specimen revealed schwannoma with degenerative changes. The patient developed weakness involving the median nerve which recovered completely with supportive therapy. This case is being presented for its rarity.

**Keyword :** Schwannoma, ancient, neurilemmoma, brachial plexus

### Introduction

Ancient schwannomas are a variant of schwannomas with degenerative changes. They arise from the peripheral nerve sheath cells. But origin from the brachial plexus is rarely reported. We report a case of ancient schwannoma arising from the brachial plexus for its rarity.

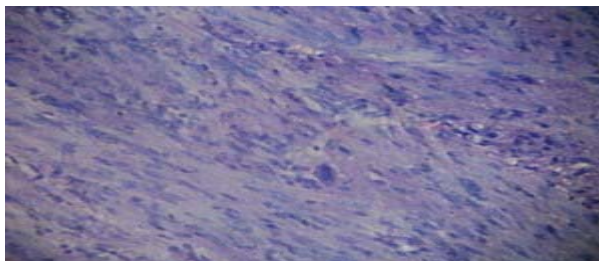
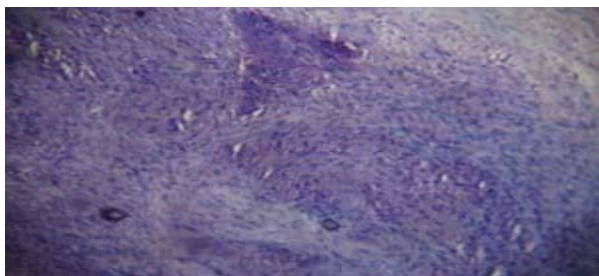
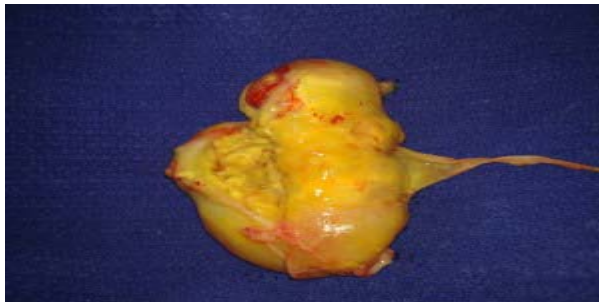
### Case History

A 33 yr female patient presented with complaints of swelling in the right axilla of 6 months duration. The swelling gradually increased in size with occasional pain, which radiated to the arm and forearm. She didn't have any history of tuberculosis. On examination, she was well built and had no signs of emaciation. She had a 10 x 8 cm swelling in the apex of axilla, non tender and minimally mobile. There was no neurovascular deficit in the right upper limb. There were no overlying scars or sinus nor any lesions in the breast. There were no other swellings over the body. Her blood investigations were normal. USG of the lesion revealed a well defined heterogeneous mass in the axilla. FNAC of the lesion was reported as lipoma. She underwent a right axillary exploration which revealed a well defined encapsulated mass arising from the brachial plexus. The swelling was dissected, capsule was opened and enucleation was done with care taken to preserve the surrounding nerves.

The patient did not develop any wound related complications but had neuropraxia involving the median nerve which recovered completely. The specimen after histopathological examination was found to be an Ancient schwannoma.



Intraoperative picture 1 Swelling being dissected



**Intraoperative picture 1** Swelling being dissected from the brachial plexus **Enucleation of the swelling being done** **Gross appearance of the specimen** **Low power microscopic appearance of the specimen showing Antoni A and Antoni B regions** **High power microscopic view of the specimen showing spindle shaped cells** **Post op Photograph on follow up**

## Discussion

Schwannomas are benign soft tissue tumors that arise from the schwann cells of the peripheral nerve sheaths. They are occasionally associated with Neurofibromatosis type 1. They usually arise from the sensory nerves but origins from the motor nerves are also reported. Schwannomas are more common in the thorax but rare in the brachial plexus.<sup>1</sup> They have slow growth and are usually asymptomatic, but occasionally may present with pressure effects over the involved nerve. Ultrasonographic studies reveal schwannomas as heterogeneous masses. Computed tomography studies of schwannomas reveal them as homogenous masses with peripheral rim enhancement on intravenous contrast administration.<sup>2</sup> Histological examination reveals encapsulation with areas of dense cellularity (Antoni A - spindle shaped cells arranged in palisades and whorls) and areas of myxoid stroma (Antoni B).<sup>3</sup> Immunohistochemical staining is positive for S-100, Vimentin and Neuron-specific enolase. Ancient Schwannomas are a subtype of schwannomas with degenerative changes including cyst formation, calcification, hemosiderin deposition, interstitial fibrosis, and vascular hyaline degeneration.<sup>4</sup> In addition to Antoni A and B bodies they have connective tissue fragments (Verocay bodies) and intranuclear vacuoles (lochkern). The term "ancient" is used as a description for the degenerative changes apparent on microscopy which was thought to be due to the increasing tumor size causing vascular insufficiency.

Surgery is the mainstay of Schwannomas, both as a diagnostic tool and treatment. Tumor enucleation with preservation of the adjacent vital structures needs to be done.<sup>5</sup>

## References

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