

## Breast Neurilemmoma

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### **Abstract**

Neurilemmoma is a benign neoplasm of Schwann cell origin, most frequently seen in the extremities and the trunk and head regions. Breast is a very unusual site for this tumor. We report a case of neurilemmoma of the breast in a 27-year-old woman. The palpable mass was localized in the lower outer quadrant of the right breast. This intramammary tumor appeared sonographically as a well-circumscribed, inhomogeneous solid mass. Microscopically, it had a pattern similar to that of Neurilemmoma of other sites.

**Key words:** Neurilemmoma – Breast – Schwann cell

### **Introduction**

Most primary tumors of the breast is of epithelial origin. Non-epithelial tumors arising from indigenous structures in the breast are rare. 1. Neurilemmomas, tumors derived from the Schwann cells covering peripheral nerves, can be benign or malignant. 2. Solitary benign or malignant schwannomas can arise in any anatomic site in the body, however neurilemmoma of the breast is rarely seen. A review of the international literature revealed 15 cases of mammary neurilemmoma.<sup>3</sup>

We report a case of benign solitary neurilemmoma presenting as a breast lump<sup>4</sup>.

### **Case Report**

A 27-year-old woman presented with painless breast lump. The palpable mass was in the lower outer quadrant of the right breast. Although, the mammography findings indicated that tumor was benign, sonography showed a well-circumscribed, inhomogeneous solid mass. During operation, there was a well defined and an oval shaped mass measuring 7X6X5 cm with a rim of fatty tissue. The external surface of the mass was grey white and smooth. It was well circumscribed. The cut surface showed a partially encapsulated mass with minute hemorrhagic areas (fig 1 and 2). The microscopic sections revealed a schwannoma with a classic Antoni A and B pattern composed of woven spindle cells with occasional palisading of the nuclei and formation of Verocay bodies (fig 3 and 4). Immunohistochemical examination was positive for S-100 protein.

### **Discussion**

The schwann cell is the supporting element of the peripheral nerve.

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These cells give rise to two types of tumors: the neurofibroma or neurilemmoma. Malignant schwannoma is, in contrast to neurofibroma, an exceptionally rare event<sup>5</sup>.

Schwannoma is one of the few truly encapsulated neoplasms of the human body and is almost solitary. It's most common locations are the flexor surfaces of the extremities, neck, mediastinum, retroperitoneum, and posterior spinal roots.<sup>6</sup> The tumor can vary in size from a few millimetres to more than 20 cm but usually measure less than 5 cm<sup>7</sup>.

Microscopically, the neurilemmoma consists of two alternating components: an organized cellular component consisting of long bipolar cells that often form a pallasading arrangement known as Verocay bodies (Antoni A area) and a loose hypocellular component (Antoni B area).<sup>6</sup> Immunohistochemically, the tumor cells show intense and uniform staining for S-100 protein, which helps distinguish it from the neurofibroma<sup>8</sup>.

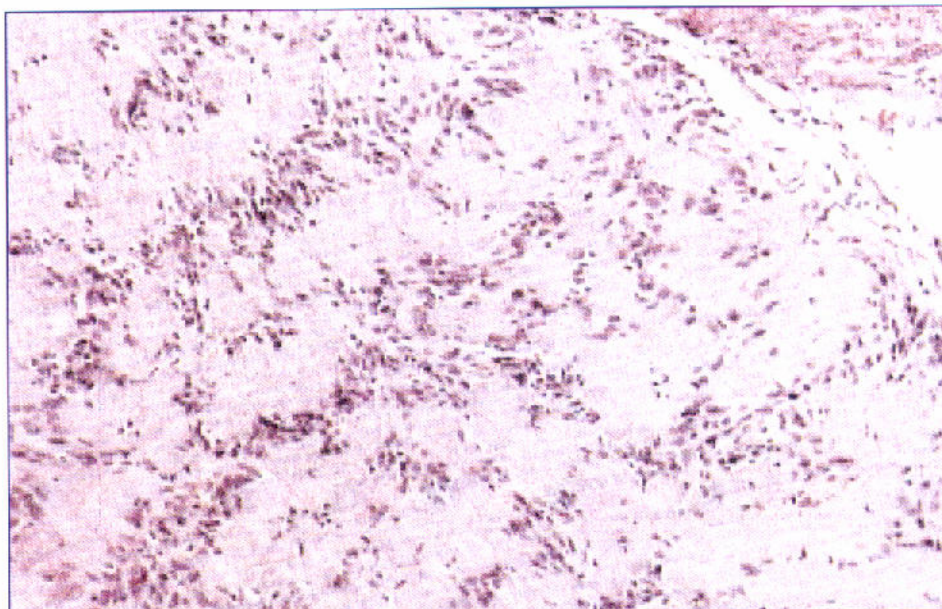


**Figure-1: Gross of Tumor**

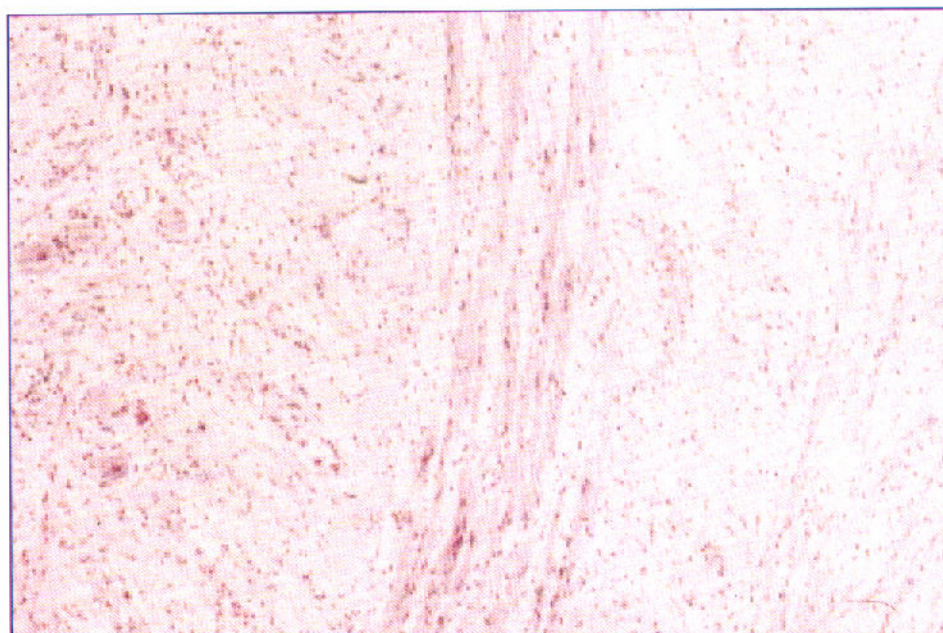


**Figure-2: Cut Surface of Tumor**





**Figure-3: Antoni A Area with Vercoy Body and Antoni B. (H&E)**



**Figure-4: Tumor with Women Spindle Cell (H&E)**

Benign schwannomas are most common between 20 to 50 years of age with a near equal male to female ratio. Although presenting signs and symptoms of solitary benign schwannomas vary according to anatomical site, most patients present with a painless slowly growing mass. Breast schwannoma can arise from the parasympathetic or sympathetic division of the autonomic nervous system present in the organ. It is rare. Only seventeen cases have been reported previously in the English literature, of which sixteen cases were benign. One case of solitary malignant schwannoma has been reported<sup>3</sup>. A case of two benign lesion of the right breast in a 25-year-old woman is reported by Galant et al. including the use of fine-needle aspiration and biopsy in the diagnosis.<sup>9</sup> The first case of neurilemmoma of male breast diagnosed by FNAC (Fine Needle Aspiration Cytology) was reported in 1992.<sup>10</sup>

Complete Treatment of solitary benign schwannoma consists of simple Enucleation of the encapsulated tumor and recurrence after the surgical excision has not been reported. Clinicians should be aware that this benign tumor of breast may simulate a malignant neoplasm clinically as well as mammographically. The final diagnosis of schwannoma was established by histopathological examination of the excised mass.

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