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# A Rare Case of Granular Cell Tumour Presenting As Axillary Swelling

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***Abstract:***
*A Granular cell tumour (GCT), is a rare soft tissue tumour which may occur throughout the body, usually in the head and neck, skin or subcutaneous tissues of the trunk and upper extremities and female genital region. The majority of tumor cases are benign and approximately 2% are malignant. It is seen in the breast at a rate of 5-8%. They present with a slow growing, painless, mobile mass. we hereby, present a case of Granular cell tumour in a 72 year old female who presented with swelling in right axilla. The definitive diagnosis is made histopathologically and the treatment is wide excision.*

***Keywords*** *- axilla, benign, Granular cell tumor, wide excision*

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## I. Introduction

Granular cell tumour(GCT) is a rare soft tissue tumor that is usually seen in the head, neck, skin, abdomen, upper extremity, breast and female genital organs. It was first described in 1854 by Weber and Virchow in a patient's tongue. Also it was defined by Abrikossoff in 1926 in the breast and named as granular cell myoblastoma[1,2]. Initially it was thought that GCT was derived from skeletal muscle cells. Because of the S-100 protein positivity of tumor cells, it was found that it originated from neurogenic mesenchymal cells, especially Schwann cells[3]. The definitive diagnosis is made by histopathological confirmation. The most effective treatment is wide excision. 5-8% of GCTs are seen in the breast. It is very important to distinguish the tumor from breast cancer because the similarity between the two entities is remarkable, especially at the diagnostic stage. In this case, we present a rare case of Granular cell tumour diagnosed by histopathological examination of axillary swelling in a 72 year old female patient.

## II. Case Report

72 year old female patient had complaints of swelling in right axilla for the past one year for which she was treated conservatively. Patient presented to us with swelling in right axilla associated with pain. Patient had no other complaints. On physical examination, a swelling of size 3x3 cm noticed in right axilla which was mobile but was adherent to overlying skin. No other swelling was palpable. Bilateral breasts were normal clinically and radiologically. FNAC was done which was inconclusive. So, we proceeded with excision biopsy of the swelling (figure-1) and the specimen was sent for histopathological examination. Macroscopically the cut surface of the tumor shows gray white areas measuring 2 x 1cm. Histopathology of the specimen showed a neoplasm composed of nests of cells with abundant granular eosinophilic cytoplasm and round nucleus with inconspicuous nucleoli. No mitosis or atypia seen with tumor free margins. Hence, the final histopathology was reported to be Granular cell tumour (figure 2-5).

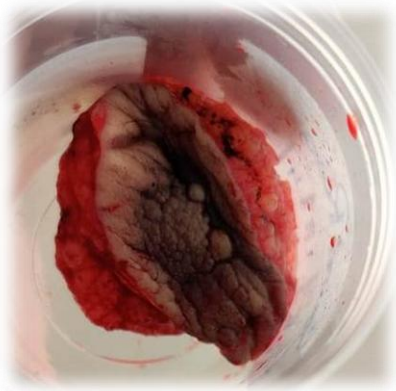
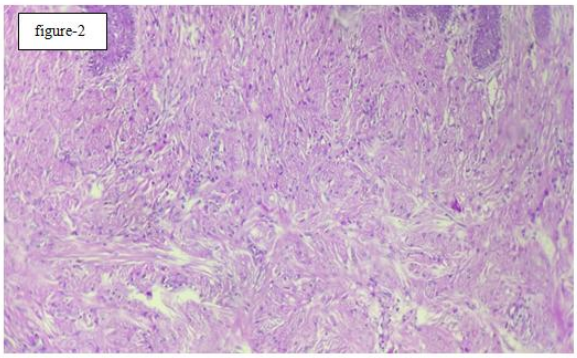
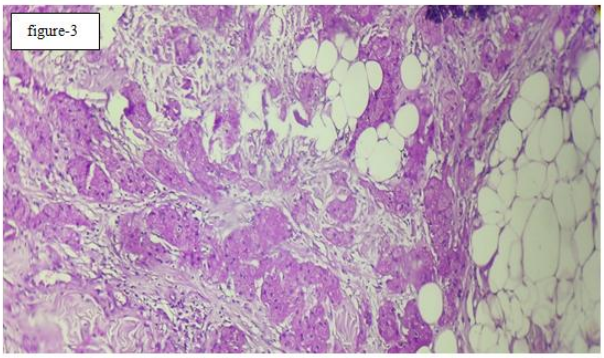
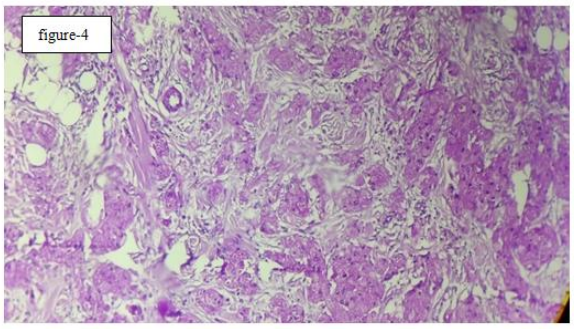
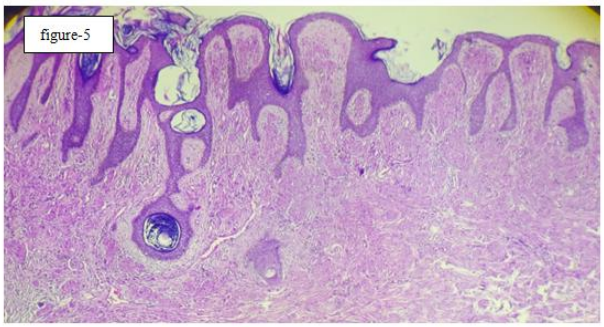


figure-1 : Wide excision biopsy specimen of the axillary swelling




Figures - 2, 3 & 4 :
shows nests of cells with abundant granular cytoplasm and round uniform nuclei(40X power); H & E stain
Figure - 5 :
Shows skin with dermis showing the neoplasm( scanner power 10 X); H & E stain

## III. Discussion

GCTs account for an incidence of 0.5% among soft tissue tumors. GCTs can occur in a wide variety of anatomical sites throughout the body; more than 50 % of the lesions occur in the head and neck region, the commonest sub site being the tongue followed by buccal mucosa and hard palate[4,5]. In the tongue, 48 % of the lesions occur on the dorsum with loss of papillae and atrophy of overlying mucosa and about 15 % reportedly occur on the lateral border followed by the ventral surface. GCTs have a female preponderance (M: F=1:2) and can occur at any age[6], but commonly occur in the fourth to sixth decades of life.

There have been many proposed theories regarding the origin of this tumor i.e. histiocytic, fibroblastic, myoepithelial, and neuronal origins resulting in a wide array of nomenclature, granular cell myoblastoma, granular cell schwannoma, granular cell neurofibroma among others. The widely accepted hypothesis is that GCT results from the altered metabolism of Schwann cells suggesting a neural origin[7]. When occurring in the breast, as it occurs in 5-8% of all cases of GCT, they present mostly as painless rounded nodules[8,9] . GCT of the breast may mimic breast cancer both clinically and radiologically[10-12]. These lesions have been defined as ranging from a round well-circumscribed mass to an indistinct or spiculated lesion on mammography[10,11]. Microcalcifications are not normally a feature of GCTs. On ultrasound GCTs can present as solid, poorly

marginated lesions with marked posterior shadowing or as more benign appearing well circumscribed solid masses. Fine needle aspiration cytology and frozen section methods are inadequate for definitive diagnosis of GCT[12]. The appearance of a GCT in axillary region is extremely rare.

GCTs are macroscopically, solid, firm tumors with a yellowish-white cross sectional surface[13]. The histogenesis of GCT remains uncertain, however the hypothesis of a neural or neuro-ectodermal origin is supported by the presence of the S-100 protein, typically expressed by these neoplastic cells and by the similar ultrastructural features of the tumor cells and Schwann cells. On pathological examination they can be identifed using both microscopic and immuno-histochemical features. The cells have a distinctive granular eosinophilic cytoplasm associated with typical nuclei, without increase in nuclear division or another signs of malignancy [14]. Malignant forms of GCTs are very rare (1-3% of all GCT cases). Akahane etal described malignant GCTs in breast. Criteria for malignancy are not consistent; adjacent tissue and/or vascular invasion, high mitotic activity and size >4-5cm were discussed. But only the presence of metastases was accepted as explicit criterion[15]. No data exist about the efficacy of adjuvant therapy in GCT treatment.

In conclusion, GCT presentation in axillary region is very rare. The definitive diagnosis is made by immuno-histochemical examination. Clinicians should be aware of this finding in the differential diagnosis of breast and axillary masses to prevent overtreatment.

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