

Granular Cell Tumor: A Case Report

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Abstract: Granular Cell Tumours of soft tissue are rare benign neoplasm. They are characterized by nesting pattern of polyhedral cells with abundant granular appearing cytoplasm. They are a rare mesenchymal soft tissue tumours that arise throughout the body and are believed to be of neural origin. These cells are often immunoreactive for the S-100 protein. They often present as asymptomatic, slow-growing, benign, solitary lesions but may be multifocal. 1-2% of cases are malignant and can metastasise. Granular cell can affect any part of the body.

Keywords: Mesenchymal, Granular eosinophilic cytoplasm, Benign.

INTRODUCTION

Granular cell tumour was originally described by Abrikossoff's in 1926 in the German literature as granular cell myoblastoma. Current opinion considers the tumour to be neural in origin. The tumour was initially called 'granular cell myoblastoma' due to its possible proposed origin from skeletal muscle [1]. Granular cell tumour is so-named due to its arrangement of nests of polyhedral cells with abundant granular eosinophilic cytoplasm. These tumours can affect any organ or region of the body.

CASE REPORT

A 56 year old female patient attended the department of general surgery presenting with complaints of swelling bilateral lower limbs for 15 days. FNAC was done and reported as Possibility of Malignant Peripheral Nerve Sheet Tumour (MPNST). The patient underwent wide surgical excision and resected specimen was sent for histopathological examination.



Fig-1: Gross mass measuring 6.5 x 5.5 x 3.5 cm .

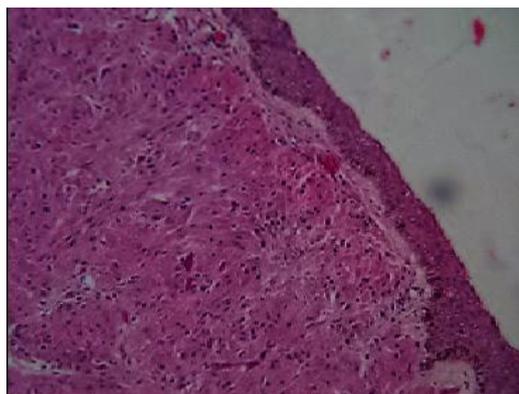


Fig-2: H and E scanner view

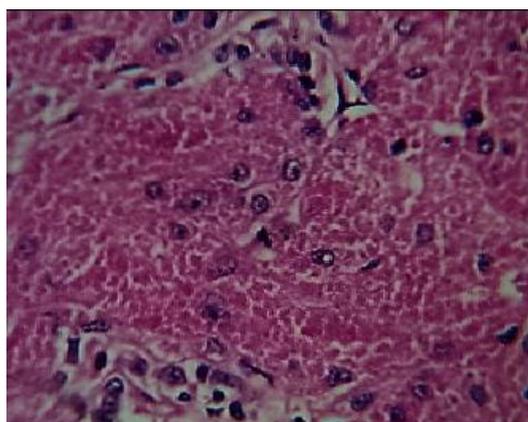


Fig-3: H and E high power view showing cells with rounded to oval cells with large amount of granular cytoplasm

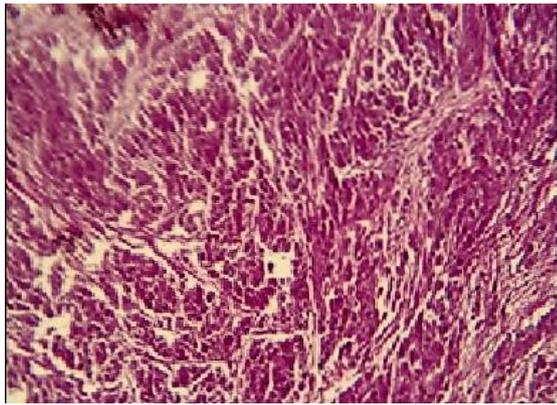


Fig-4: Tumour cells showing PAS positive granules

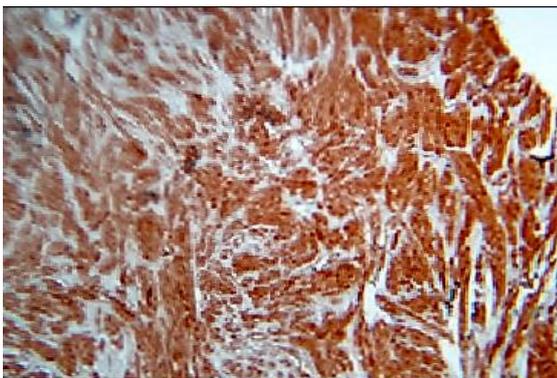


Fig-5: Tumour cells showing strong and diffuse immunoreactivity for S-100 immunostain

Gross

Received skin covered soft tissue swelling measuring 6.5 x 5.5 x 3.5 cm .E/S- On skin- There is firm to hard, discoloured, raised, smooth nodules measuring 3.5 x 3 x 2.5 cm. C/S – Grayish white, firm, well circumscribed at a distance of 0.5 cm from closest resected skin margin and 0.1 cm from deep resected margin .

Microscopy

Sections show skin with elongated rete pegs overlying cellular neoplasm composed of oval to polygonal cells with abundant granular cytoplasm and small vesicular nuclei arranged in nests and island extending upto subcutaneous fat. IHC was done which showed positivity for S-100.

DISCUSSION

GCT was first described in the literature in 1926 by Abirkosof's as a myoblastoma, since it was reported as a tumour arising from muscle in the tongue [1, 3]. Current opinion concurs with this. Although the etiology of GCT is still controversial, the currently most accepted hypothesis is that the tumour arises from Schwann cells or their precursors [2]. Immunohistochemical analysis has shown a strong and consistent positivity for protein S-100, a finding supporting the hypothesis that GCT is of peripheral nerve sheath origin [2]. GCT may occur at any age, but

common in the third to fifth decade of life [3, 4]. Two-third of cases are reported in women and in black population [5]. It is an uncommon benign neoplasm characterised by large granular eosinophilic appearing cells.

Growth tends to be very slow except for the rarer malignant granular cell tumours, in which growth is generally much more rapid. Malignancy occurs in less than 2% of patients. Microscopically, the benign tumours are characterised by nests and cords of large polyhedral cells with centrally located, small, evenly-stained nuclei. As their name suggests, there is abundant granular eosinophilic cytoplasm. Our case illustrates a benign granular cell tumor in a distinctly unusual location. Diagnosis was confirmed as benign granular tumour on characteristic histopathological morphology, PAS positive with diastase resistant cytoplasmic granules, intense immunoreactivity for S-100 protein on IHC examination [5, 6]. Surgical excision with free margins is curative in nearly all cases of GCT and local recurrence is rare [4]. Recurrence of benign GCTs following wide excision is rare and most likely associated with incomplete resection [6]. The treatment of choice in GCT is a local wide excision with clear margins.

CONCLUSION

This tumour is rare and accounts for approximately 0.5% of all soft tissue tumours. Granular cell tumour is a neoplasm that develops in soft tissue mainly in the skin, oral cavity and gastrointestinal tract, but the tumour is relatively rare.

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