



Granular Cell Tumour - Case Reports

Authors

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Abstract

Granular cell tumor (GCT) is uncommon, mostly benign neoplasm that can affect any organ of the body; immunohistochemical studies showed that it has a Schwann cell origin through the positive identification of S-100 protein. GCT can affect both sexes and in any age. Most common occurrence is during the fourth to sixth decades of life, very rarely it occurs as congenital disease. The common locations are the head and neck, the tongue is affected in 25% of cases but any internal organs can be affected such as larynx, bronchus, stomach, rectum, anus, biliary ducts, pancreas and soft tissues. Malignant GCT is extremely rare, it occurs in only 1–2% of cases. Multiple GCTs occur up to 10%. This paper describes two cases diagnosed with granular cell tumor in uncommon site (hand).

Introduction

Granular cell tumour also called Abrikossoff's tumor is an uncommon, mostly benign soft tissue tumour and was first described in 1926 by Abrikossoff. It occurs in almost any part of the body with incidence of 0.017-0.029% in general surgical specimen. The common sites are the tongue, skin, and subcutaneous tissue. GCT of hand is an extremely rare. Till date only 17 cases are reported in the literature.

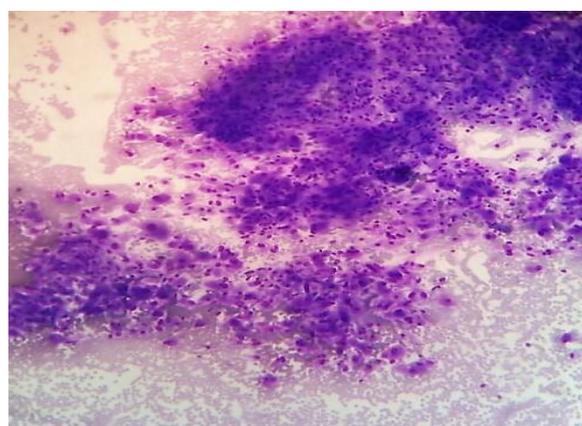
Clinical Presentation

Two cases, One- 60-year-old woman presented with a swelling over dorsum of right hand for past 4years and the other was 39 year-old female with swelling in left index finger. On examination, there was a 2 × 2 cm firm, non tender, and mobile mass in both patients. Fine needle aspiration of the lesion showed sheets of cells with abundant granular cytoplasm and mild pleomorphic nuclei

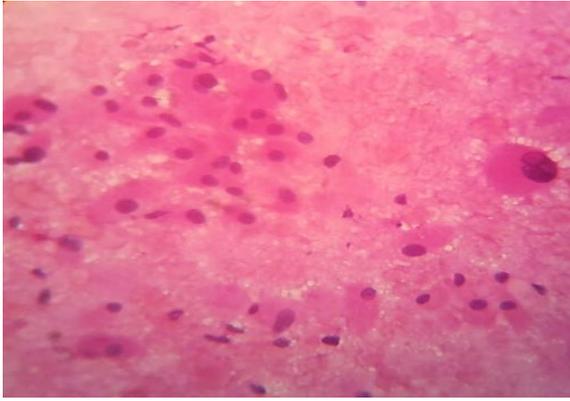
along with spindle cells. A diagnosis of atypical spindle cell lesion was made.

Gross Examination

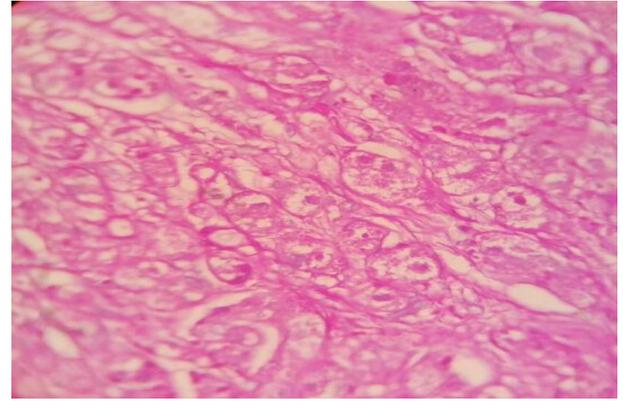
Single, grey brown soft tissue mass weighing 27 grams from one patient and 32grams from the other, measuring 2 x 2 x 0.7cm and 3 x 2 x 1cm was received. On sectioning, appears grey white and firm.



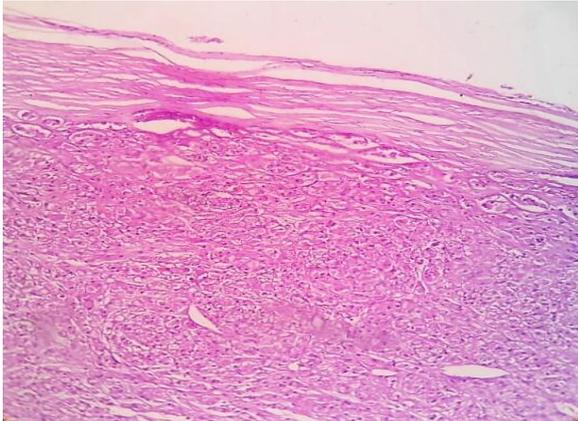
FNAC 10X GIEMSA STAIN



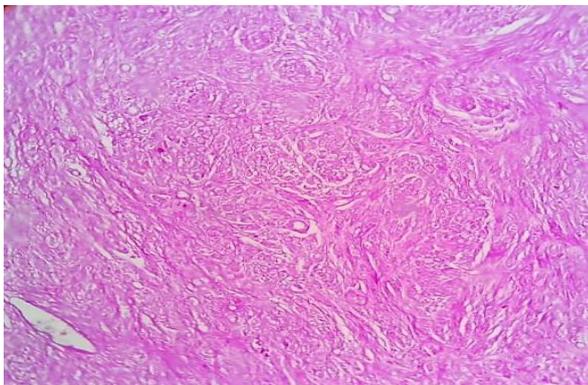
FNAC 40X H & E STAIN



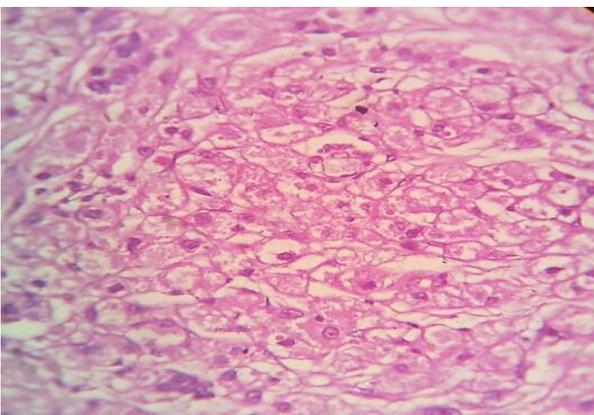
HISTOPATHOLOGY SPECIAL STAIN- PAS AND DIASTASE TEST- IMAGE 40X VIEW



HISTOPATHOLOGY IMAGE SCANNER VIEW -- H & E STAIN



HISTOPATHOLOGY IMAGE 10X VIEW- H & E STAIN



HISTOPATHOLOGY IMAGE 40X VIEW -- H & E STAIN

Discussion

Granular cell tumour are rare soft tissue benign tumor originating from Schwann cells. Histopathology showed an encapsulated tumor arranged in sheets & nests and pattern. Cells were large polygonal with abundant eosinophilic cytoplasm and granules. Nuclei are round to ovoid, vesicular, prominent nucleoli and exhibit mild pleomorphism. The granules, representing phagolysosomes, are strongly periodic acid-Schiff (PAS)-positive and diastase resistant. Immunohistochemistry showed S100 to be diffusely positive.

Congenital GCT is in fact a variation of GCT with similarities under the microscope but with immunohistochemical, and ultrastructural differences. GCTs are almost always benign, but malignant manifestations are found in 1–2% of the patients. They are preferentially located in the skin and subcutaneous region. They involve the regional lymph nodes, although distal metastasis is uncommon.

Malignancy is suspected from a series of factors

1. Cases of tumors macroscopically similar to benign GCTs, however quickly relapsing locally after surgical removal.
2. Tumors above 4 cm; Gamboa (1955) and Batsaki and Manning (1986) reported GCT cases with malignant clinical and histological characteristics, with larger tumors (averaging 9 cm in diameter) in relation to benign GCTs.
3. Tumor evolving slowly that suddenly begins to grow quickly.

4. Presence of distal metastasis.
 5. Presence of atypia and pleomorphism, although not always present in malignant GCT.
- The name Atypical GCT in which malignant histological traits and clinical aggressiveness was given for cases are present, even without signs of metastasis

Conclusion

Granular cell tumour of hand with an incidence of 0.1% reported in our department of pathology. Complete resection with disease free margins is usually curative for benign GCT. Follow-up is required due to recurrence and malignant transformation. We may, therefore, conclude that GCTs are rare neoplasms that must be considered in the differential diagnosis of cutaneous and mucosal tumors. Early diagnosis combined with careful follow-up is required to increase the chances of cure

References

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2. Abrikossoff A: Über Myome ausgehend von der quergestreifter willkürlichen Musculature. Virchows Arch A Pathol Anat. 1926, 260: 215-33.
3. Mukai M: Immunohistochemical localization of S-100 protein and peripheral nerve myelin proteins (P2 protein, PO protein) in granular cell tumors. Am J Pathol. 1983, 112: 139-146.