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CASE REPORT

NODULAR FASCITIS: A DIAGNOSTIC DILEMMA ON CYTOLOGY

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ABSTRACT

Background: Nodular Fascitis is a pseudosarcomatous tumor. It is a reactive process rather than true neoplasm. It is very difficult to diagnose on cytology, hence can be mistaken for other malignant mesencymal tumor.
CASE : 14yr female presented with right forearm swelling since 1yr. Clinical diagnosis was Fibroma. USG-guided FNAC done. FNAC and Histopathology section shows pleomorphic, bizarre spindle cells and multinucleated cells. Differential Diagnosis were given on FNAC and Histopathology which was confirmed on Immunohistochemistry as Nodular Fascitis.
Though Nodular Fascitis is common in young adult but it's bizarre finding on histopathology and FNAC should not be mistaken for malignant tumor , hence clinical, radiological and pathological correlation is needed.

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INTRODUCTION

Clinical features

14yr female attended surgery opd with complain of gradually increasing swelling over right forearm since 1yr. Not associated with pain. History of receiving injection over same site 1yr before.

ON PHYSICAL EXAMINATION: Swelling over Rt. Forearm of size 4x3cm, firm in consistency, fixed to underlying skin, non-tender, overlying skin-normal.

USG FINDINGS: Well - defined oval hypoechoic lesion in superficial subcutaneous plane of right forearm. USG-guided fine needle aspiration was done.

Gross

Well - circumscribed,non-capsulated,nodular mass of size 4x3cm seen..On cut-surface, a grey-white mass, firm in consistency with whorling pattern seen, along with myxoid changes at places..Areas of haemorrhage and congestion also seen.

Cytology findings

Cellular smears with cells arranged in clusters and dispersed singly. Spindle and polygonal cells. Few cells with high N:C ratio, hyperchromatic nuclei with coarse chromatin.Many bizarre multinucleated giant cells with abundant eosinophilic cytoplasm seen.Acute and chronic inflammatory cells in background seen. Few muscle fibres and myxoid material also seen.

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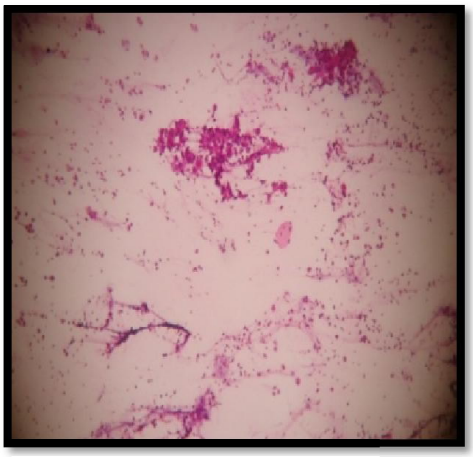
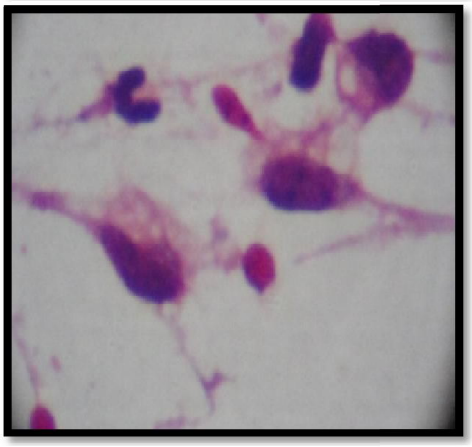
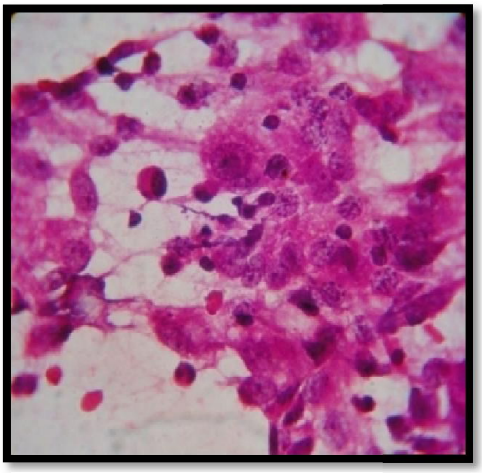
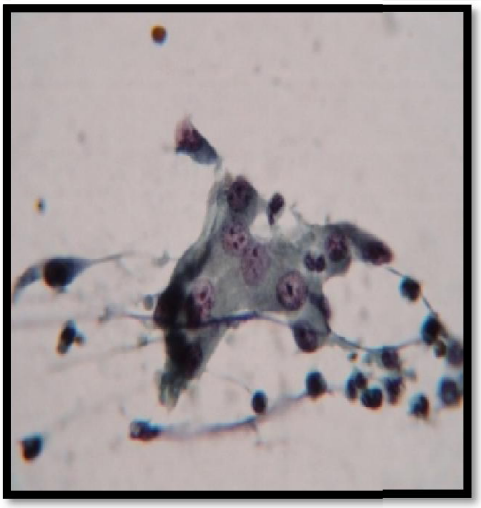
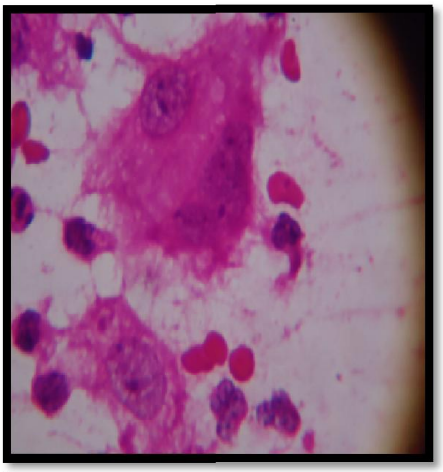
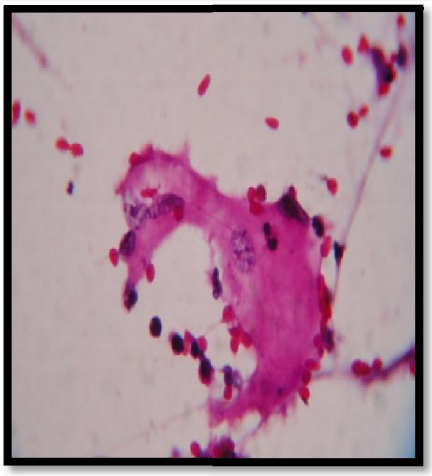






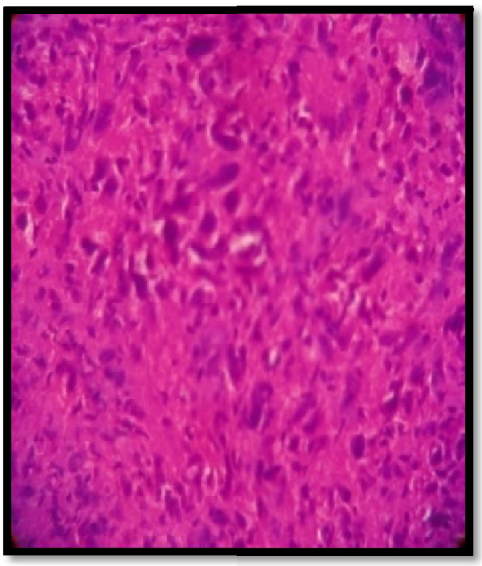


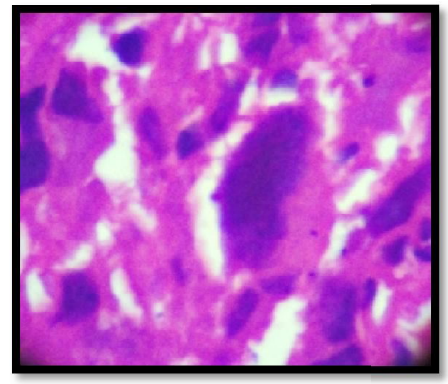


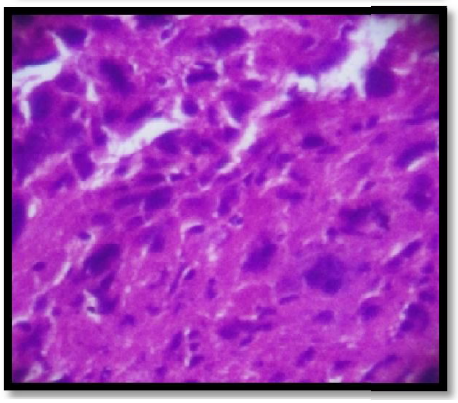


HISTOPATHOLOGY FINDINGS

A well-circumscribed mass shows tumor cells arranged in short irregular bundles and fascicles. Nuclear pleomorphism and hyperchromasia with smudged chromatin.Few places showing myxoid changes and chronic inflammatory cells.No atypical mitosis seen.

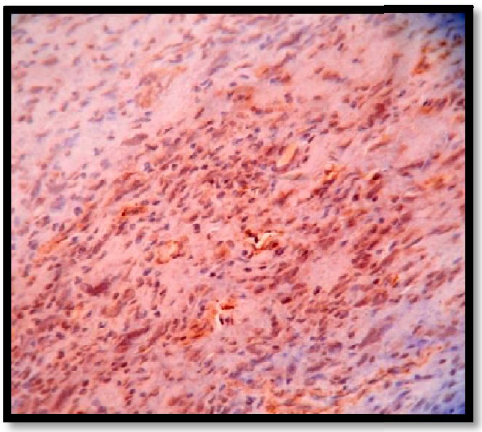


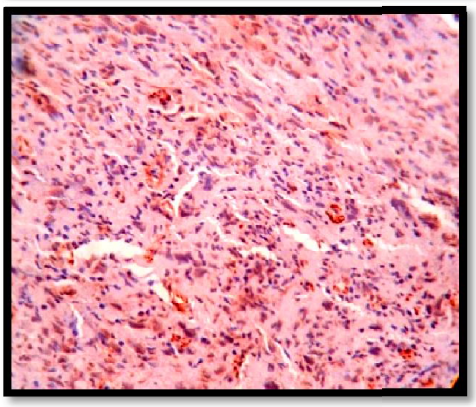




On immunohistochemistry

Cells show focal smooth muscle actin positivity. Cells lack immunoreactivity for desmin, S100 protein and keratin.





Diffrential diagnosis offered on cytology

1. Nodular Fascitis.
2. Pleomorphic malignant fibrous histiocytoma.
3. Pleomorphic rhabdomyosarcoma.

Diffrential diagnosis offered on histopathology

1. Nodular Fascitis.
2. Pleomorphic malignant fibrous histiocytoma.

Final diagnosis: NODULAR FASCITIS

DISCUSSION

Nodular fasciitis is benign reactive process which is likely in patients having history of trauma. Clinically it presents as a rapidly growing mass within 1-2 wks. Patients present with tenderness, pain, numbness, and paraesthesia when rapidly growing nodule exerts pressure on a peripheral nerve. Common age group: 20-40 yrs, common sites: Upper extremities, trunk, chest wall, and back. Head and neck are the most common sites in infants and children. Variants: Ossifying fasciitis, Intravascular Fasciitis, Cranial fasciitis. Because of its reactive process, rapid growth, pleomorphic features, and highly mitotic index, can be mistaken for sarcoma on cytology. So it can resemble a) Pleomorphic malignant fibrous histiocytoma, b) Pleomorphic rhabdomyosarcoma. If only inflammatory cells are aspirated it can be mistaken for granulation tissue. Hence, multiple sites sampling is necessary to give definitive diagnosis with clinical and radiological correlation and preventing unnecessary radical surgical treatment. Tumors that are histopathologically similar to nodular fasciitis include fibrosarcoma, fibroma, fibrous histiocytoma, and desmoids.

Declarations

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Conflict of interest: None declared
Ethical approval: Not required

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