Nodular Fasciitis of the Right Shoulder (Myxoid Subtype): A Diagnostic Challenge Mimicking Soft Tissue Neoplasm

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Introduction

- Nodular fasciitis (NF) is a benign, reactive myofibroblastic proliferation. It is categorized into three histological subtypes: Cellular, Fibrous, and Myxoid.
- Clinical: A 18-year-old male presented with a painless, rapidly enlarging mass in the right shoulder over the past one month. The absence of significant pain despite the rapid growth clinically raised suspicion for a soft tissue neoplasm.
- Key Radiologic Sign: Although the lesion is intramuscular, it maintains a close relationship with the deep fascia, exhibiting a 'Fascial Tail Sign'. The margins show a 'feathery' infiltrative appearance as the lesion proliferates along the muscle fibers, a feature that often mimics aggressive sarcoma
- Diagnosis: Excisional biopsy confirmed Nodular Fasciitis with Myxoid content .
- The Great Mimicker: Myxoid Nodular Fasciitis is a "pseudosarcomatous" lesion. Its rapid growth and hyperintense T2 signal can lead to a misdiagnosis of malignancy.

Figure 1 : (A,B) :T2WI coronal /STIR axial images : Marked heterogeneous hyperintensity characteristic of a myxoid matrix. Presence of a prominent "Fascial Tail Sign" (red arrow) which linear extension along the deep muscular fascia, a key clue for Nodular Fasciitis. (C. D) Pre and post T1WI coronal images : A well-defined intramuscular mass within the deltoid muscle, appearing isointense to skeletal muscle with intense peripheral enhancement after contrast which seen extending along the deep muscular fascia and involved muscle fibers (yellow arrow)

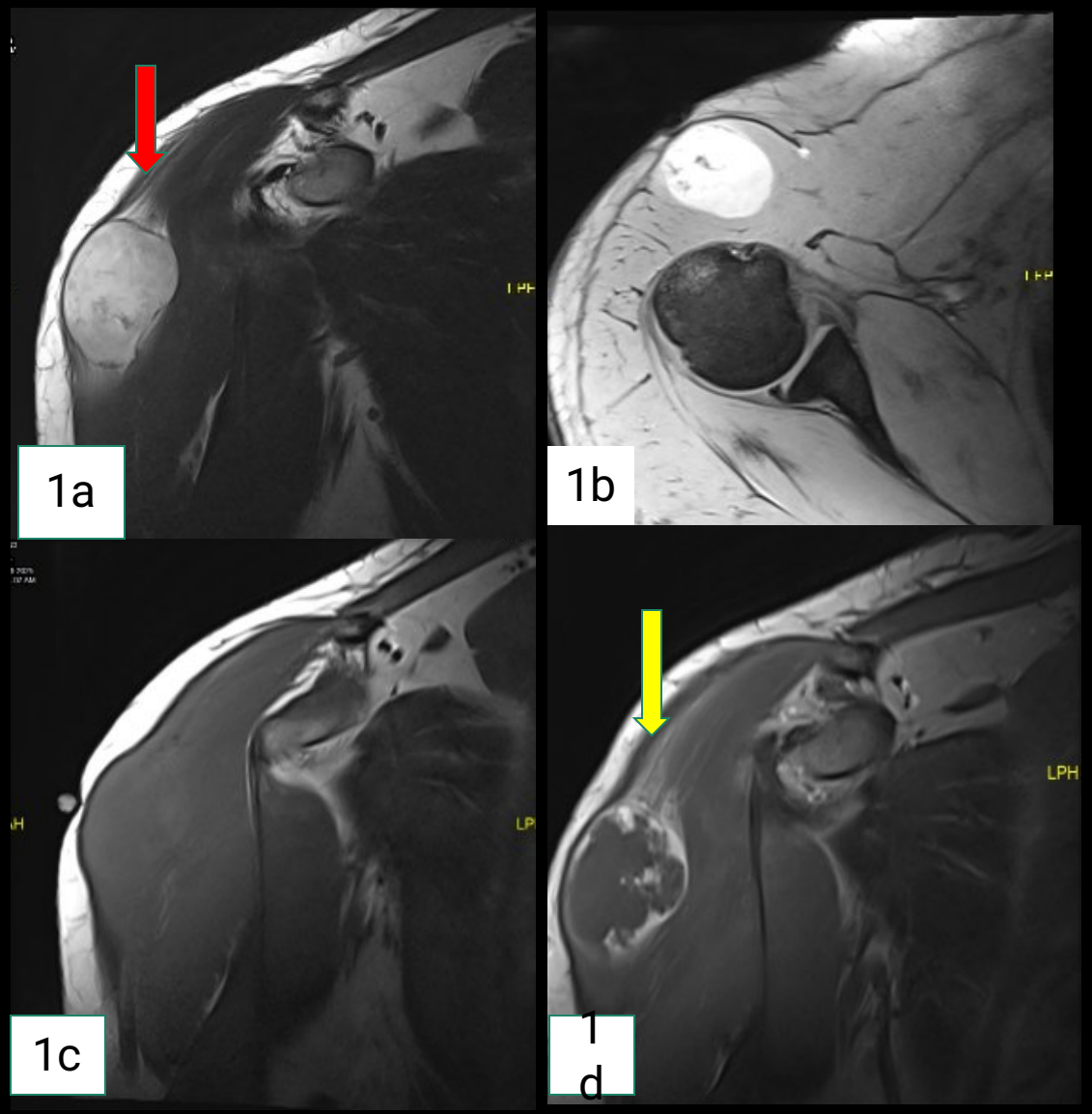

Figure 2: coronal T1 fat sat post contrast revealed intense marginal enhancement of the lesion and along with muscle fibers and deep fascia .

Figure 3 : Histopathological analysis following excisional biopsy confirmed the diagnosis of Nodular Fasciitis, showing spindle cell proliferation in a myxoid stroma without significant atypia.

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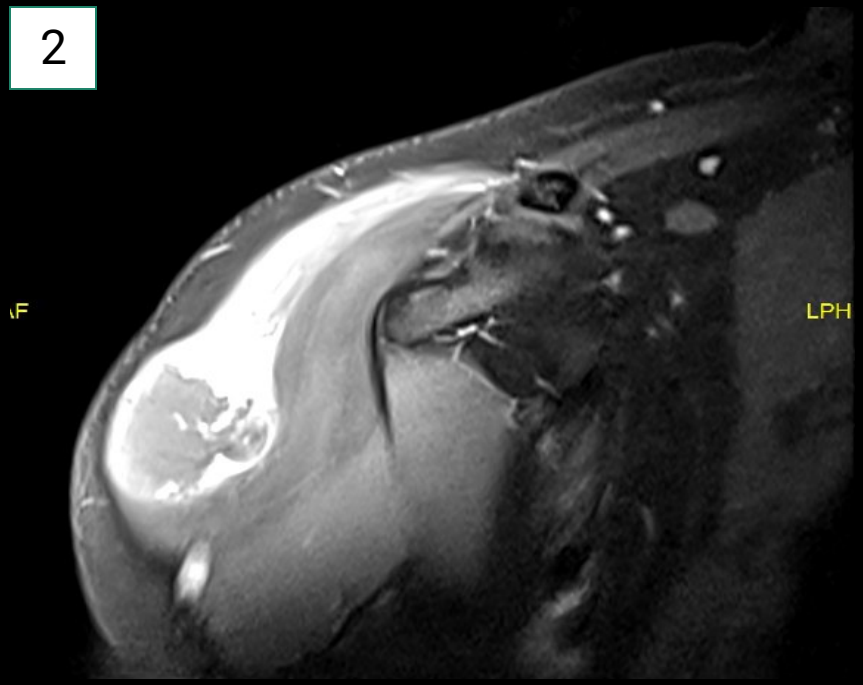

GROSS DESCRIPTION :

Container labelled as "Excision biopsy" .Received unoriented fragmented excision specimen. Largest specimen measuring 3.5x2.5x3.0cm.serial section shows myxoid cut surface. Separate small fragments collectively measures 2 x 2 x 1.5cm. There is a small tissue fragment with stich (?capsule) comprising of scant portion of lesion at one end and muscle on other end measuring 3 x 1.5 x 0.5cm (outer surface inked orange). Representative sections are taken in sixteen cassettes as follow.
Block 1- 8: Large specimen
Block 9-10: Separate fragments
Block11-16: Fragment with stich (orange ink on outer surface)

MICROSCOPIC DESCRIPTION :

Sections reveals a spindle cell neoplasm of variable cellularity, arranged in short bundles and irregular fascicles with some areas showing tissue culture like appearance. Stroma is myxoid and collagenous with scattered lymphocytes and areas of extravasated erythrocytes. Few scattered mitotic figures are present. Occasional giant cells are also present. Few microcysts are appreciated. Focally lesion appears to infiltrate skeletal muscle. Specimen is received fragmented.
On immunohistochemistry, spindle cells are positive for SMA and negative for Desmin, S-100, CK, EMA, CD34, Beta-Catenin and ALK. Ki-67 Proliferation index is 5%.

DIAGNOSIS :

Excision, Lesion, Right Shoulder: Nodular Fasciitis, See Comment.

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References

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