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Case Report

A Rare Case of Nodular Fasciitis Over the Wrist Dorsum

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Abstract

Introduction: *Nodular fascitis is a benign, reactive fibroblastic tumor that usually presents as a rapidly growing lesion with occasional involvement of the deep fascia and muscle We present a case of nodular fascitis over the dorsum of the wrist. In our knowledge, this is the first reported case of nodular fascitis at this location in literature.*

Case Presentation: *A 33 year old male with a desk job, presented with a rapidly growing lesion over the dorsum of left wrist over 5 months, associated with pain and restriction of dorsiflexion of wrist. The Xray, ultrasound and MRI images were inconclusve and excisional biopsy was done for definitive diagnosis.*

Conclusion: *Nodular fascitis is a relatively uncommon but important differential diagnosis for any rapid soft tissue growth. It is a self limiting proliferative fibroblastic lesion, with excisional biopsy as the gold standard for diagnosis of this condition.*

Keywords*: Nodular fascitis, dorsum of wrist, excisional biopsy.*

Introduction

Nodular fasciitis is a rare, proliferative fibroblastic lesion that can be misdiagnosed as a soft tissue sarcoma (1). It typically develops in the subcutaneous fascia of the extremities and trunk, and sometimes in the superficial portions of the deep fascia of the underlying muscle sheath. This case report describes the clinical presentation, diagnostic work up, surgical in-tervention, and postoperative course of a rare case of nodular fasciitis over the dorsum of the wrist, marking the first documented case report of this lesion (2).

Case Report

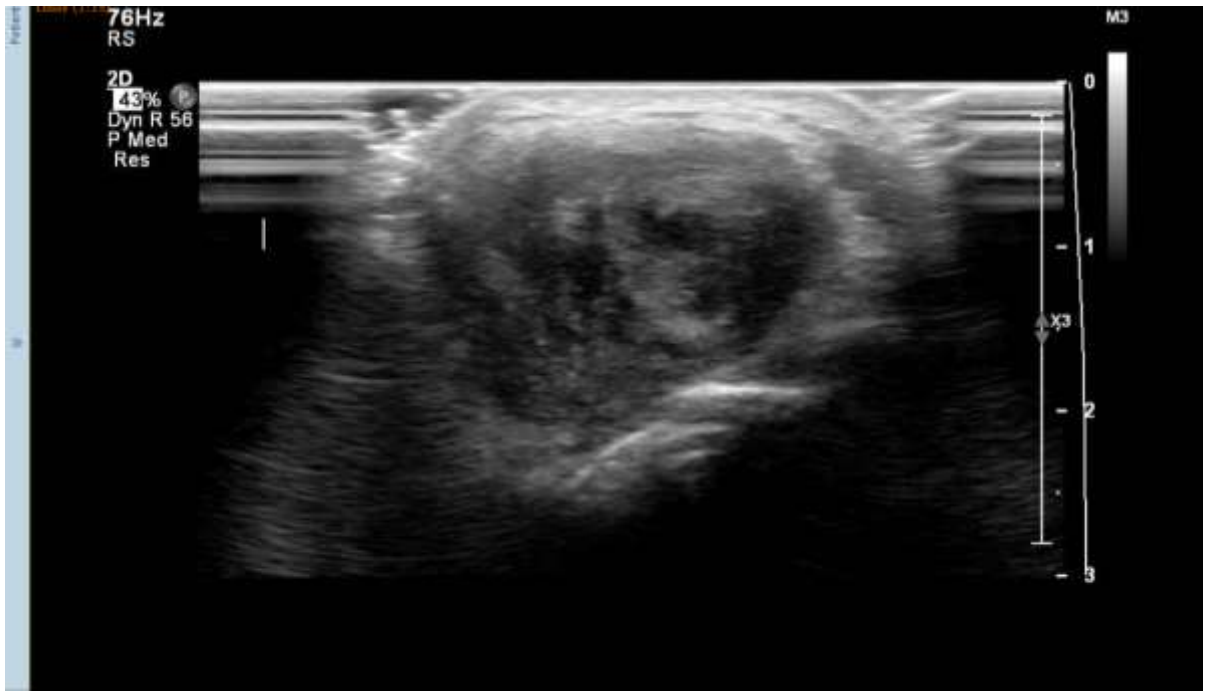
A 33-year-old engineer with a desk job reported persistent left wrist pain with stiffness and movement restriction for the last five months. The pain was accompanied by swelling in the wrist's dorsum, which had progressively increased over time. The mass was firm, 2.5 cm in diameter, firmly anchored to the wrist's dorsum and immobile. The wrist's dorsiflexion was restricted to 10 degrees due to the mass effect, but no apparent tendon adhesion was noted. The patient had no prior history of injury or trauma.

The patient had a solid hypoechoic lobulated mass lesion measuring 27x16mm on the dorsal aspect of his left wrist. The diagnosis was a giant cell tumor and soft tissue sarcoma, and fur-ther investigations were advised. X-rays showed a soft tissue shadow in the lateral view, but no bony abnormalities were noted. MRI scans revealed an irregular, intensely enhancing soft tissue mass at the wrist's dorsal aspect, interposed between the 4th and 5th extensor tendon compartments. The MRI findings were consistent with a benign soft tissue neoplasm.

To obtain a definitive diagnosis, an excisional biopsy was performed under general anesthe-sia, revealing a 3x3 cm non cystic hard soft tissue mass attached to the dorsal joint capsule. The lesion was well circumscribed, and the encapsulated lesion was completely excisiond. The adjacent tendons and vessels were taken care of to avoid damage.

Histopathology findings showed a well-circscribed neoplasm composed of interlacing and intersecting fascicles of bland smooth muscle cells. Few thick-walled blood vessels were visible, and mitoses were absent. No evidence of atypia or malignancy was found in the sec-tions studied.

The patient had an uneventful post-operative recovery, with complete recovery of range of motion and wrist function without complications. There was no recurrence until a year of follow-up.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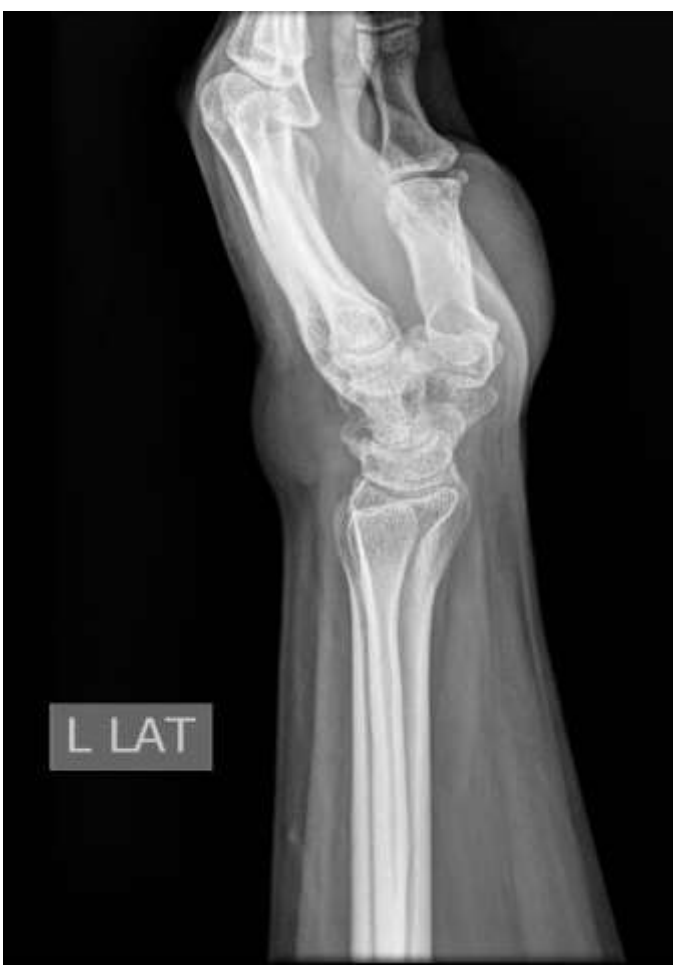
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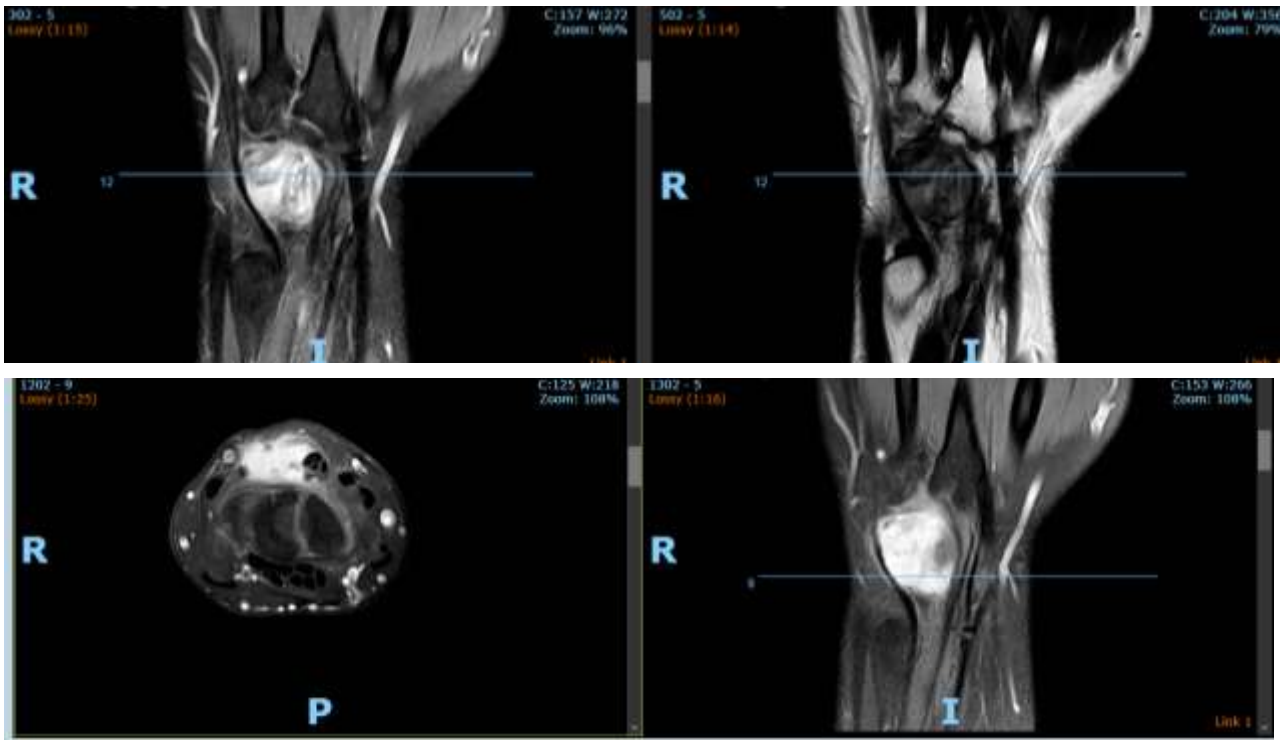
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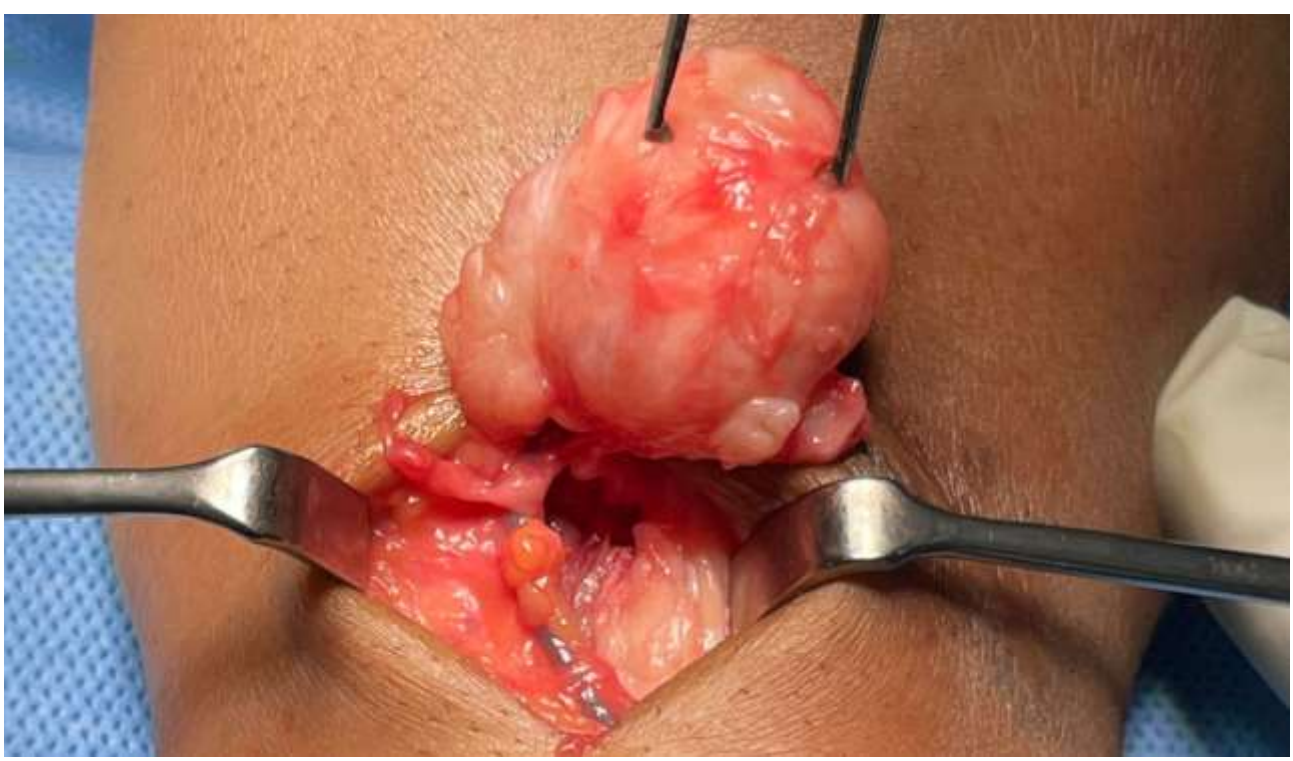

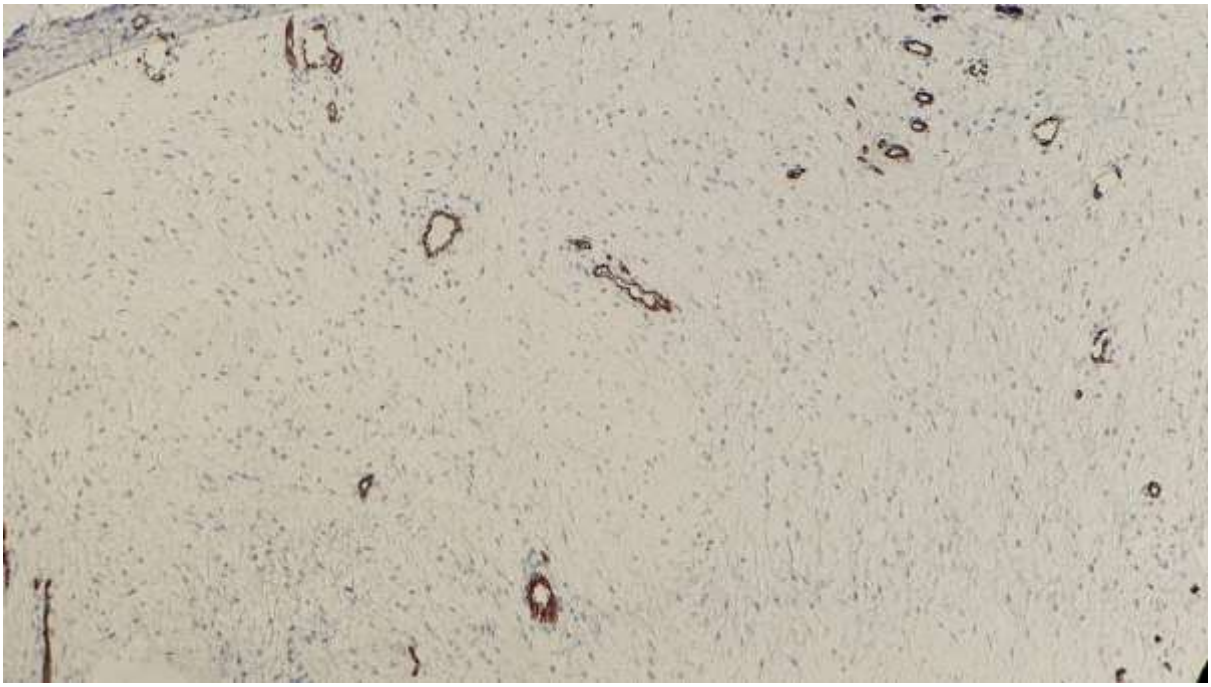

Discussion

Nodular fasciitis is a rare, benign reactive lesion that rapidly grows in young adults between 20 and 40 years old. It is usually subcutaneous, with occasional cases involving muscle and fascia. The macroscopic appearance of nodular fasciitis is well-circscribed single masses, usually measuring less than 2 cm in diameter. The rapid growth of the lesion often makes biopsy essential to rule out sarcoma. The aetiology of nodular fasciitis remains unclear, with 38.5% of cases in hand and wrist having a history of trauma (3,4,5,6).

The features of nodular fasciitis on ultrasound and magnetic resonance imaging (MRI) are non-specific, with the lesions appearing as well-circscribed, round to oval masses. Signal intensity of the condition is variable, with intramuscular lesions appearing mildly inhomo-geneous and hyper intense to skeletal muscle on T1-weighted spin-echo images, and subcu-taneous lesions being markedly hypo intense to skeletal muscle on all spin-echo sequences and appearing homogeneous in texture. High cellularity and micro-vessel density may di-rectly influence the early enhancement after intravenous gadolinium injection and compact cellularity with a prominent capillary network. A myxoid pattern may be responsible for the enhancement on MRI (7,8).

Historopathology of nodular fasciitis suggests regular spindle-shaped fibroblasts or myofi-broblasts lacking nuclear hyper chromatic and pleomorphism with high cellularity. Spindle-shaped fibroblasts, clefts separating the fibroblasts, extravasated erythrocytes, interstitial mucoid material, and a loosely textured 'feathery' pattern of the mucopolysaccharide ground substance are diagnostic of nodular fasciitis (9, 10). Immunostains of Desmin, cytokeratin, and S-100 are typically negative. In view of the inconclusiveness of imaging for diagnosis, biopsy is often the gold standard (11,12).

Conclusion

Nodular fasciitis of the wrist is a rare and inconclusive condition, with a prognosis of excel-lent with low recurrence risk. It is important to differentiate it from non-cystic soft tissue mass, as clinical and radiological findings are inconclusive. This differential diagnosis helps avoid anxiety and overtreatment associated with malignancy, ensuring a more accurate di-agnosis.

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