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Research Article

NODULAR FASCIITIS OF THE FOOT: A CASE REPORT

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ABSTRACT

Objective: One case of nodular fascitiis of the foot is reported .Nodular fascitiis is a benign lesion described in 1955 by Konwaller. this tumor has a rapid proliferation of myofibroblastic cells, so this lesion, although benign, can mimic certain sarcomas .
Methods: Clinical, radiological, histo-pathological data of the patient and relevant literature were reviewed.
Results: We report a case of nodular fasciitis involving the foot that was treated with operative excision.
Conclusions: Nodular fasciitis is a self-limited, benign soft tissue tumor composed of fibroblasts and myofibroblasts and rarely presents in the foot. This tumor can be easily mistaken for a malignant neoplasm. A complete excision generally provides definitive treatment.

INTRODUCTION

Among soft tissue tumors, nodular fasciitis is a relatively common tumor process in the period between 30 and 40 years of life [1.]. It is a benign lesion described in 1955 by Konwaller *et al* [2] ; this tumor has a rapid proliferation of myofibroblastic cells, which develops at the expense of a muscular fascia within the subcutaneous tissue. The usual locations are the head and neck (20%), the trunk (18%), the upper limb (46%) and rarely the lower limb (16%) [3]. This lesion, although benign, can mimic certain sarcomas [4] and it is therefore important to differentiate it from more serious conditions; from a clinical point of view, the rapid evolution of nodular fasciitis should make physicians fear a malignant process. This benign lesion does not relapse and can regress spontaneously. We report a rare case of a localization of this tumor in the foot, confirmed by an anatomopathological examination.

Case Report

A 60-year-old man presented with a 3-year history of a slowly growing painless mass in the left foot, another soft tissue post-traumatic mass in the second right finger and a scrotal mass. He revealed a history of trauma of the finger, and one infection in the area of the mass of the foot (Nodular Fasciitis). He claimed to have no other symptoms and to be otherwise healthy.

Physical examination of the foot revealed a nodular soft tissue mass, measuring approximately 3,5 cm in diameter. The lesion was firm, not tender, but mobile. No erythema, warmth, or fluctuance was present in the foot, but he had difficulties in putting on his shoes.

Radiographs of the foot revealed a calcified soft tissue mass adjacent to the fifthmetetarsal bone [Figure 1] and a soft tissue mass at the level of the IPP joint of the second right finger. Preoperative biological tests were normal.

For the treatment, a complete excision of the two masses was carried out (The scrotal tumor was managed by an urologist). The finger lesion was adherent, which made dissection difficult. However, the foot lesion was subcutaneous and did not infiltrate into any structures, so they were all left intact, allowing an easy extirpation [Figure2]. Histopathological analysis revealed for the finger a reshaped epidermal cyst without histological signs of malignity and for the scrotal cyst it revealed a chronic folliculitis and for the foot a mesenchymal lesion consisting of plump, immature-looking fibroblasts arranged in fascicles in a myxoid and fibrous stroma. A zonation effect was present, with dense, hypercellular areas transitioning to areas of low cellularity with hyaline fibrosis. There were scattered inflammatory cells, extravasated red blood cells, and areas with keloid-like collagen. Mitotic figures were readily observed in the cellular areas, with none appearing atypical. These findings allow us to make a final diagnosis of nodular fasciitis for the foot.

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DISCUSSION

The history of our patient is somewhat challenging, with the presence of three masses: foot, hand and scrotum.

Nodular fasciitis is most common in young adults, aged 20–40 years. Our patient was significantly outside this age range, at 60 years old. In fact, only 13% of cases are found in patients older than 50. Nodular fasciitis often presents as a rapidly growing mass, observed over 1 month or less, which leads it to be mistaken for a malignant neoplasm.In our case, the mass of the foot did not increase in size rapidly; the growth was slow, over several months (6 months, but the mass had been present for 3 years). Nodular fasciitis is usually found as a small (<2 cm) nodular lesion, with approximately half of patients reporting mild pain or tenderness; in our patient the lesion was a firm rather than a tender mass. The lesion may present anywhere in the body, but it is most commonly found in the trunk or an upper extremity, with a predilection for the forearm. Lesions in the foot are rare [5]

His pathogenesis is not well known, but it appears that this lesion is the result of a self-limiting reaction process and is not a true neoplasm [6].Another theory reported that cytogenetically the presence of an USP6 gene rearrangement (shared with the aneurysmal cyst and giant-cell lesion of the hands and feet), with formation of the MYH9-USP6 or SRSF3-USP6 fusion genes, established its clonal tumor nature[7] . Most authors believe that the lesion is formed as the result of a reaction or inflammatory process following a local or infectious injury. In our case, the importants calcifications of the mass was atypical. The differential diagnosis of a calcified mass of the foot soft tissues includes periostedchondroma, chondrosarcoma, chondroid lipoma, paraosteal osteosarcoma, tumoral calcinosis, giant cell tumor of the tendon sheath,and calcifying aponeurotic fibroma.[8]

After the history and physical examination, radiographs should be obtained. However, they generally do not provide detailed anatomic information. Most cases present as subcutaneous masses, but occasionally they can involve fascia and muscle. In rare instances, the mass can grow large enough to extend through the skin. There is no specific character in X-rays, CTscan or MRI. On MRI, his aspect depends on the importance of his cellular, myxoid or fibrous composant. The cellular and myxoid component shows a low signal intensity on T1ponderation, high signal intensity on T2 ponderation et and a homogenous enhancement after injection of gadolinium. The fibrous composant shows a low signal intensity in T1 and T2 ponderation [9,10,11]. Nodular fasciitis has a characteristic histologic pattern, composed predominantly of plump, immature fibroblasts in an abundance of ground substance. This imparts a loosely textured or feathery appearance. Mitotic figures are common; however, they are never atypical, unlike in sarcomas [12].

In this patient, the mass was found to be not adherent to the surrounding structures, and so was a mobile mass that was readily dissected. In the literature, these lesions are capable of more than simply adhering to soft tissue, and consequently, dissection can be complex and arduous [13].

Complete excision generally provides definitive treatment, with recurrence being rare. In case of recurrence initial diagnosis of nodular fasciitis should be revisited [14]

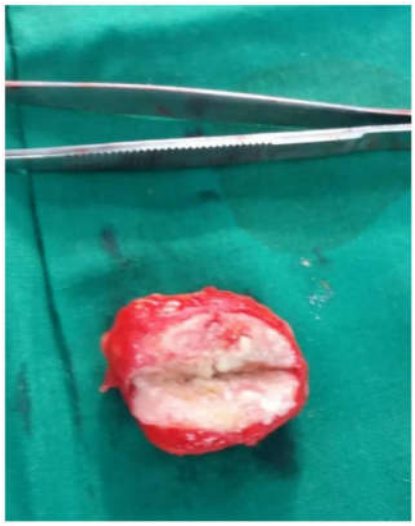

Figure 1 XRay showing a calcified soft tissue mass of the foot.

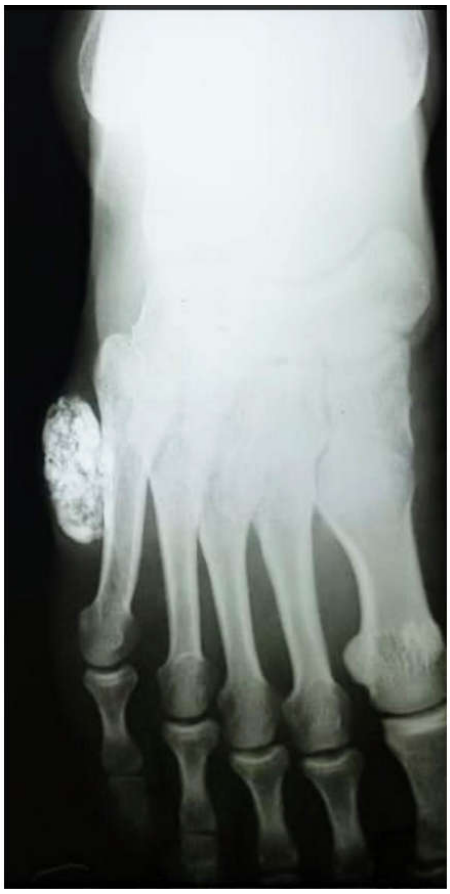

Figure 2 Post operative excised nodule measuring 3,5cm×2,5cm×1,4cm.

CONCLUSION

Though it is rare, the localization of nodular fasciitis in the foot deserves to be known. Diagnostic and therapeutic resection sparing the vital structures is probably the best method of treatment.Histological examination should be performed by experienced anatomopathologists, to avoid a misdiagnosis of sarcoma, which could have potentially dramatic consequences.

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