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Pigmented Villonodular Synovitis of the Fifth Metatarsophalangeal Joint: About A Case and Reviewed the Literature

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Abstract: Villonodular synovitis (VNS) is a rare benign joint disorder. Its location on the metatarsophalangeal joint remains exceptional. Here we report the case of a 32-year-old patient with a localization of this tumor at the fifth metatarsophalangeal joint. Subchondral geodes were observed at the head of the fifth metacarpal on standard radiography. CT found the mass and described its characteristics. Surgical resection showed an encapsulated, bluish-red mass with well-defined boundaries. The anatomopathological study confirmed the diagnosis. After 8 months of follow-up, no recurrence was observed.
Keywords: Villonodular synovitis, metatarsophalangeal joint, Orthopedics.

INTRODUCTION

Villonodular synovitis (VNS) is a rare benign joint disease characterized by villous or nodular hyperplasia of the synovium. Its pathogenesis remains unknown. Its location on the metatarsophalangeal joint remains exceptional to our knowledge [1]. We report a rare localization of this tumor at the fifth metatarsophalangeal joint

CASE REPORT

A 32-year-old man with no history who consults for left foot pain associated with swelling compared to the left fifth metatarsophalangeal.

Clinical examination revealed a non-adherent, non-inflammatory smooth mass of 3 cm by 2 cm, centered on the fifth left metatarsophalangeal joint. NFS was normal, Protein-C reactive too. X-rays of the left foot showed normal joint space. Subchondral geodes were observed at the head of the fifth metacarpal. CT found the mass that measured 28mm × 20mm × 32mm.

In the operating room: the mass included the head of the fifth metatarsal by pushing the extensor and flexor tendons of the quintus. Surgical resection showed an encapsulated, bluish-red mass with well-defined limits. His pedicle was not accessible.

The capsule was interrupted laterally. The geodesic appearance of the fifth metatarsal head corresponded to erosions of the cortical bone by the tumor. The surgical procedure consisted of a macroscopically complete resection of the mass. After 8 months of follow-up, no recurrence was observed. Anatomopathological study confirmed the diagnosis with villous proliferation, histiocytes, microscopic villi, and multinucleated giant cells loaded with hemosiderin.

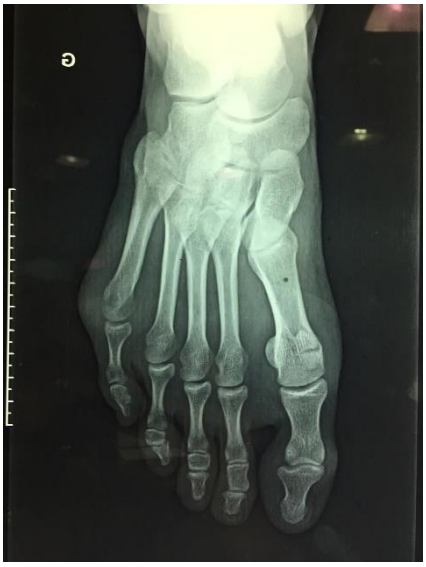

Fig-1: X-ray of the foot showing mass and subchondral geodes

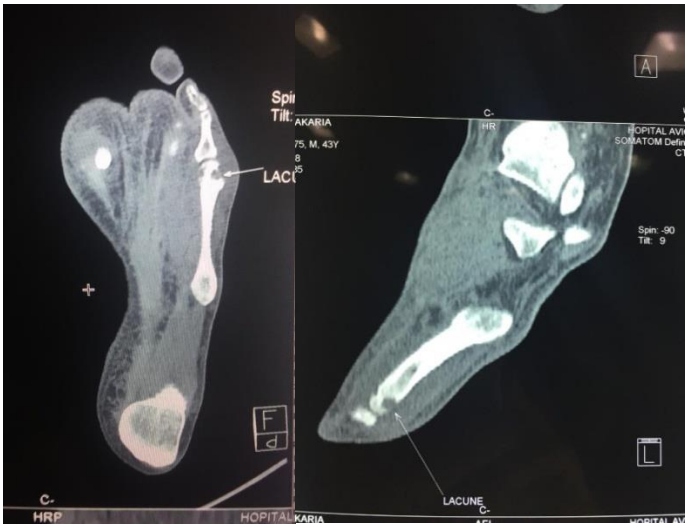

Fig-2 & 3: CT of the foot showing mass and subchondral geodes

Fig-4: Intraoperative image showing mass.

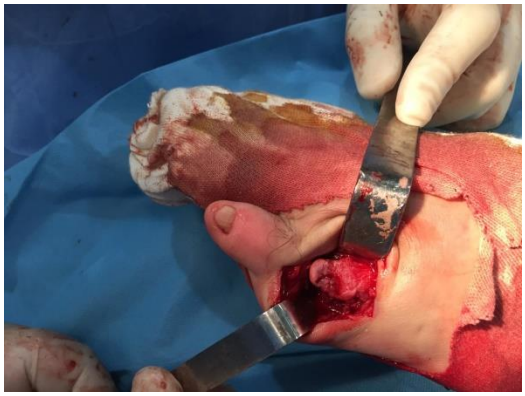

Fig-5: image showing the joint after resection of the mass.

DISCUSSION

Pigmented villonodular synovitis is a rare condition. It affects young adults between the ages of 20 and 40, with a slight female predominance. The most affected joint is that of the knee (80% of cases) but all joints can be affected; as the case of our patient. The functional signs are not specific, dominated by pain, mechanical discomfort and effusion. Their banality and ignorance of this condition often cause a significant delay in diagnosis. This tumor belongs to the group of giant cell tumors of the tendon sheath. X-rays are usually normal [2], but they can mount soft tissue mass or joint effusion. Bone lesions are observed only in advanced cases. Arthrography and CT are of little value, especially since the arrival of MRI. The latter has become the examination of choice because it reveals multiple synovial lesions with a hypo-intense signal in T1 and a heterogeneous signal in T2 [2-4]. After gadolinium injection, the pathological villi are well distinguished from the articular fluid. Small hyposignal areas are visible in the synovial masses without enhancement of the signal by gadolinium which corresponds to hemosiderin deposits.

The treatment of VNS is not codified. Therapeutic means consist of synoviectomy, arthroscopic or open synovectomy and even sometimes total arthroplasty. In localized forms, the treatment of choice is partial synovectomy under arthroscopy. In diffuse forms, the choice between open or arthroscopic synovectomy depends on the clinical form. Chemical synoviorthesis is used as an adjunct to synovectomy. Total arthroplasty is considered in the case of progressive and deleterious lesions. The recidivism rate is less than 10% in some recent series. Sarcomatous degeneration has been exceptionally reported in some cases [5].

CONCLUSION

The rarity of villonodular synovitis makes it difficult to carry out large comparative studies in order to standardize the management. However, MRI and arthroscopy have improved the early management of this pathology.

Conflicts of interest:

The authors do not declare any conflict of interest.

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