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Case Report

Giant Cell Tenosynovial Tumor of the Forefoot: Report of Two Cases

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Abstract

Of rare occurrence in our practice, we describe two cases of a Giant Cell Tumor of the forefoot. This rare tumor is described mostly in young adults with a female predominance. It develops essentially in the fingers of the hand and less frequently at the foot. In our cases it occurred in a young male adult on the extensor of the great toe and in the second, in a relatively aged female person between two median toes.

The clinical picture is characterized by local swelling and slow growth and may be accompanied by signs of compression at a later stage. Histological examination confirms the diagnosis and prognosis according to the presence or absence of malignancy. The treatment is based on complete surgical resection of the tumor.

Keywords: Tumor; Giant cells; Foot

Introduction

Giant cell tumors of the tendinous sheaths or giant cell tenosynovial tumors are benign soft tissue tumors that usually occur in the limbs, most often in the hand. They are described mostly in young adults with a female predominance. Their location in the foot is rare.

Case Presentation

Case 1

A 28-year-old male patient consulted for a painless swelling of the right big toe that had been evolving for one year and had gradually increased in volume. Examination showed a roughly oval mass, with a bilobed appearance, 4 cm long axis, firm consistency, infiltrated, adherent to the deep plane, with no adjacent inflammatory signs (Figure 1). On plane X-ray (Figure 2) the shadow of the tumor could be seen. Ultrasound (Figure 3) describes a very large mass syndrome developed on the anterior aspect of the second phalanx of the hallux. The formation has a longitudinal extension of 34 mm a thickness of 10 mm a transverse extension of 23 mm. It remains quite well defined. It is crossed by the extensor tendon of the toe and extends to the root of the nail. It appeared extremely vascularized.

Case 2

The second case is that of a female patient aged 61 at the time of surgery complaining for the last two years of a tumor arising between the second and third toes of her left foot (Figure 4). The standard X-ray of the foot (Figure 5) showed a tumor like image at the level of the second and third metatarsal spaces. MRI of the soft tissues (Figure

Figure 1: Great toe photo.

Figure 2: X-ray.

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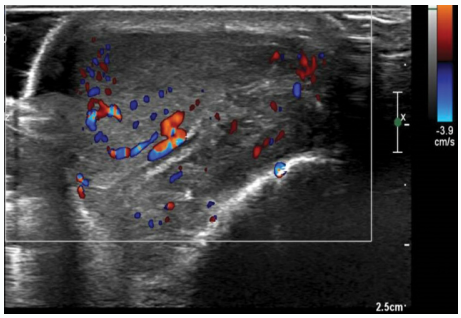

Figure 3: Echography of the great toe.

Figure 4: Forefoot photo.

Figure 5: X-ray.

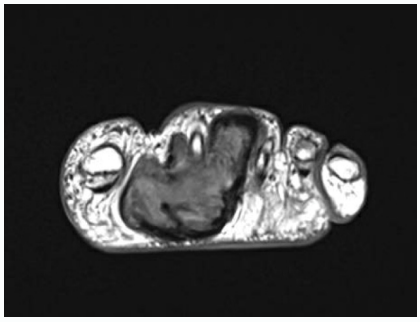

Figure 6: MRI of forefoot.

6) showed an oval formation with an axis parallel to the cutaneous plane, with polylobed contours and a hypoechoic structure. Surgical excision (Figures 7 and 8) with a histological study made it possible to retain the diagnosis of tenosynovial tumor with giant cells in its diffuse form.

Figure 7: Surgical view.

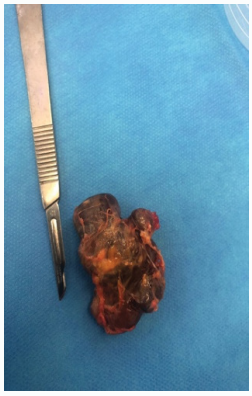

Figure 8: Surgical specimen.

On macroscopic examination a multinodular tissue fragment measuring 5 cm × 4 cm × 3 cm is described. At the section edge, the tumor was fibrous, rusty in color and firm in consistency. Its resection was macroscopically complete. On microscopic examination, the samples showed a characteristic histological image of villonodular tenosynovitis (giant cell tumor of the tendons).

Discussion

Giant cell tenosynovial tumors are benign soft tissue tumors that usually arise in the limbs, most often in the hand [1]. Their location in the foot is rare. Levi, et al. [2] described a case involving the distal flexor digitorum longus tendon sheath. Our first case is about the extensor digitorum longus tendon sheath. Searching the literature we found an article by Keiichi Maramatsu, et al. [3] about the same location.

These tumors are a benign proliferative disorder of the synovium with a poorly understood mechanism [4]. They can involve the joint synovium, the serous bursae and the tendon sheaths. Typically, they occur along the palmar aspect of the hand and fingers [5]. There is a ratio of 2/1 in favor of the female sex and can occur at any age [6,7]. Although many articles describe the plantar localization of the tumors, our first case is about the extensor side of the forefoot. The differential diagnosis often arises with foreign body granulomas, tendon sheath fibroids, fibrous tumors, lipoma or a desmoid tumor [8]. Complete surgical excision should be performed to reduce recurrence of the tumor as recurrence rates reported in the literature vary from 4 to 44% [9] and approximately 50% of these tumors have been reported to recur within 4 to 6months after surgery, usually because of inadequate excision [10].

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