Angioleiomyoma of the Achilles Tendon

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Abstract

Angioleiomyoma, a relatively rare tumour of smooth muscle origin, has been reported in many anatomical sites. We present a patient who was referred with a diagnosis of nodular Achilles tendinopathy. At exploration, the mass was excised, and histopathology revealed it to be an angioleiomyoma. Tumoral masses should form part of the differential diagnosis of a subcutaneous lesion on an extremity, particularly the lower limb.

Introduction

Angioleiomyoma is a relatively rare tumour of smooth muscle origin. It has been reported in various subcutaneous locations [13, 14], but is very rare around tendons [7]. We report the case of a patient who had an angioleiomyoma overlying the Achilles tendon.

Case Report

A 37 year old policeman was referred to the Orthopaedic clinic with a two-year history of a swelling just above the left heel with intermittent pain and tenderness over the lesion. He occasionally experienced difficulty wearing footwear. The lesion had been aspirated with a needle by his general practitioner, yielding sero-sanguinous fluid. Routine laboratory testing of the fluid showed non-specific exudate with red cells. The swelling recurred within six months.

The patient was therefore referred to the care of the Department of Trauma and Orthopaedic Surgery, and was seen as an outpatient 13 months after the swelling had originally been detected. Examination revealed a cystic, ovoid swelling over the distal left Achilles tendon, immediately above its insertion (Figure 1). The lesion was smooth and fluctuant. There were no signs of infection both clinically and on serological testing. The mass was not adherent to the deep or superficial tissues. On clinical examination, we used the 'arc sign test' to verify the location of the lesion. Briefly, when a swelling is found in the Achilles tendon region, the subject is asked to dorsi- and plantar-flex his ankle. In an intratendinous lesion, the area of swelling evidenced by inspection and/or palpation moves with dorsiflexion and plantarflexion of the ankle. If the area of swelling evidenced by inspection and/or palpation does not move with dorsiflexion and plantarflexion of the ankle, then the lesion is not anatomically connected to the tendon [15, 16]. This test has recently been validated in our setting [8].
Plain radiograph was unremarkable, and the patient refused any other investigation. An excisional biopsy was performed under general anaesthetic. At operation, the lesion had the appearance of a haemangioma. It originated from the surface of the posterior aspect of the Achilles tendon, and extended posteriorly towards the skin of the posterior aspect of the ankle. It never breached the paratenon.

Histopathological examination revealed a well circumscribed lesion composed of dilated thin-walled blood vessels with multiple small vascular channels surrounded by prominent thickened and whorled proliferation of smooth muscle, consistent with an angioleiomyoma of the solid subtype (Figure 2).

The patient made an uneventful recovery, and by six weeks returned to his normal police duties. He refused to attend for follow up after that period, but telephone enquiries two years after the excision of the lesion confirm he has remained well since with no recurrence.
Discussion

Angioleiomyoma have been described subcutaneously in the extremities and in other sites including the head and neck, diaphragm [14], and also within bone [13]. It may involve nerves [11, 12]. The lower limb is more commonly involved than the upper limb [3, 4]. Lesions around tendons are very rare [7]. The condition is commoner in females than males, especially in the lower limb, where there is a female to male ratio of 2.7:1 [4]. These tumours can affect any age group, but they are more prevalent in people aged between 30 and 60 years [4]. Pain is a common presenting symptom [3]. Three histological subgroups of angioleiomyoma have been identified; solid, cavernous and venous [9]. Angioleiomyomas commonly arise from the smooth muscle elements in the tunica media of blood vessel walls [1]. Solid tumours are found more commonly in the lower extremity [4], and pain is a more common presenting symptom in the solid type of tumour [9]. The pain that arises from these lesions may be due to local ischaemia from vessel constriction [9], but, as nerves have been confirmed within the tumours [6], irritation of these nerves may produce the pain [2]. Recurrences after excision of angioleiomyomas are rare [4]. However, malignant changes in recurrent tumours have been reported [5, 10].
In conclusion, angioleiomyoma is a rare differential diagnosis in patients with a subcutaneous nodule around the Achilles tendon. Differential diagnosis includes ganglions, fibromas, lipomas, foreign body granuloma, inclusion cysts, haemangioma and neurofibroma. Angioleiomyoma, although infrequent, should be considered in the differential diagnosis of a lesion around the Achilles tendon.

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References


