A rare case of glomangioma around the knee

Abd Kadir KHAIRUL AZMI [1] and Chandran PRAKASH [2]
[1] Department of Orthopaedics and Trauma, Raja Isteri Pengiran Anak Saleha Hospital, Brunei Darussalam, and [2] Department of Trauma and Orthopaedics, Warrington and Halton NHS Foundation Trust, United Kingdom

ABSTRACT

Glomus tumours are benign lesions that commonly occur in the nail bed of fingers. Extradigital glomus tumours are extremely rare and often misdiagnosed. The present study reports a 41-years-old man with a 16-year history of severe right knee pain with hypersensitivity to light touch and temperature. Physical examination showed a very tender, firm mass, 1 X 1cm in size located on the lateral aspect of his right knee. Magnetic resonance imaging was suggestive of a neuroma but on histological examination upon complete excision revealed a diagnosis of glomangioma.

Keywords: Glomus tumour, knee joint, extradigital

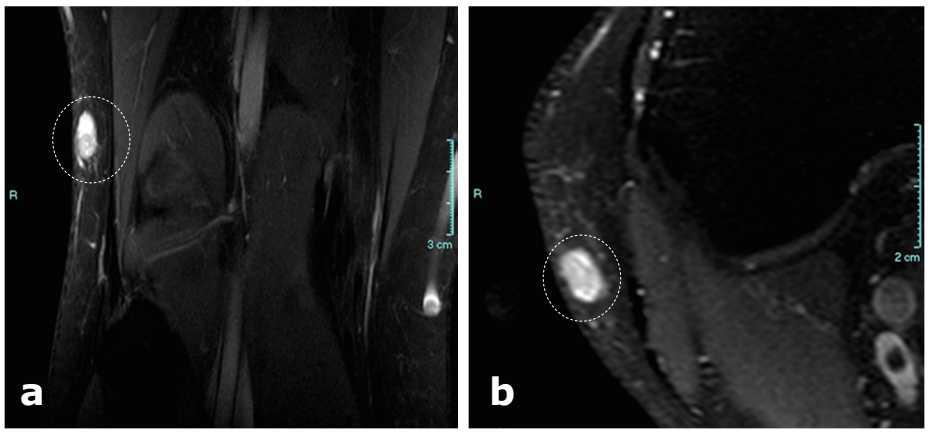
INTRODUCTION

Glomus tumours are neoplasms that are benign in nature and are derived from the glomus apparatus in the dermis of the skin. The glomus apparatus itself consists of an arteriovenous shunt involved in regulating body temperature. It has modified smooth muscle cells located in the walls of Sucquet-Hoyer canal where the tumours usually arise. Glomus tumours are relatively rare vascular tumour with an incidence of 1.6% of all tissue tumours. [1] They are commonly encountered in the subungual region of fingers with incidence of 1-5% of all hand tumours. [2] Their occurrence elsewhere in the body is even rarer. There are three types of glomus tumours, namely; 1) glomangioma which is the most common subtype (60%); 2) solid glomus tumour (25%) and; 3) glomangiomyoma (15%). [3] To our knowledge, there were 10 cases of extra-digital glomus tumours found around the knee in the literature. [4] We present a rare and interesting case of glomangioma in a 41-years-old man with chronic severe pain in his right knee.

Correspondence author: Khairul Azmi Abd Kadir
Bandar Seri Begawan, BA 1710.
Brunei Darussalam.
Tel: +673 2242424 Ext 5615.
E mail: khairulazmiabdkadir@gmail.com

CASE REPORT

A 41-years-old man was referred to our hospital with a 16-year history of pain and swelling over the lateral aspect of his right knee. He thought it initially appeared after he accidentally hit his knee with a tennis racket. It was associated with excruciating pain whilst exercising as well as burning sensation. The swelling had never increased in size over these years. However, the pain became worse and was unresponsive to medical treatment.

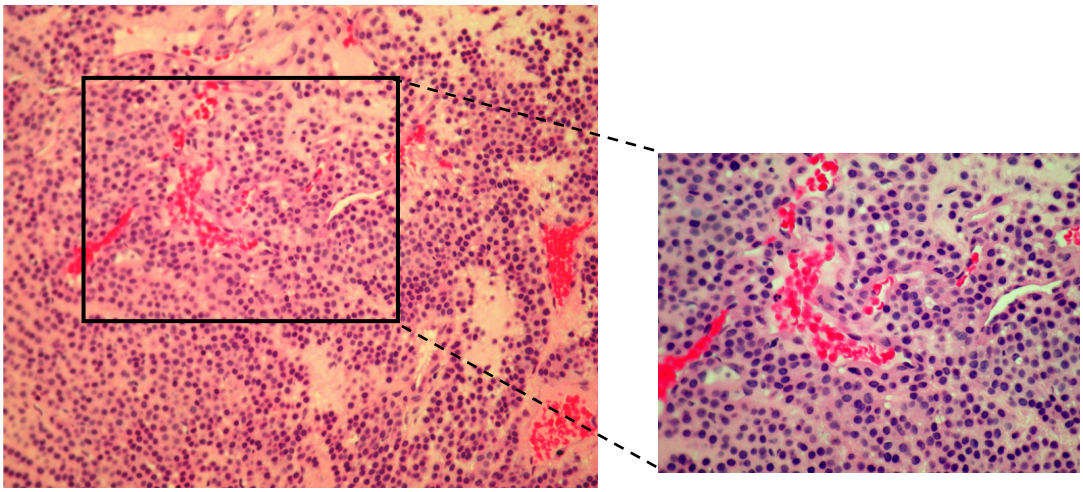


Figs. 1: a) MRI coronal and, b) axial views of a well defined subcutaneous lesion (circle) that returned a high signal on the STIR weighted sequence.

here was no limitation in the function of his knee. On physical examination, there was a superficial swelling measuring 1 X 1cm seen at the lateral aspect of the knee joint very near to his hamstring muscle. It was firm and had a well-defined margin with a smooth surface. It was not fixed to the skin or the underlying tissues. It was very tender on light palpation with surrounding hypersensitive skin. The knee examination was unremarkable.

A Magnetic Resonance Imaging (MRI) scan demonstrated an ovoid well-defined subcutaneous lesion within the soft tissues adjacent to the lateral aspect of his right knee joint. The nodule was solid but returned a high signal on the STIR weighted sequence. It measured 9 X 5.6mm in trans-axial plane and 15 mm craniocaudally. No deep communication or other soft tissue abnormality demonstrated on the study (Figures 1a and 1b).

A provisional diagnosis of superficial neuroma was made. The patient underwent excision of the swelling under local anaesthesia via 2cm longitudinal incision. It was excised in total with a cuff of normal tissue. His



Figs. 2: Low-magnification and High-magnification (insert Haematoxylin-eosin stain showing tumour that consists of uniform small cells with eosinophilic cytoplasm arranged in a trabecular pattern. The wall of blood vessels were hyalinised.

symptoms resolved almost immediately following excision of the swelling. There was no recurrence of symptoms at follow up.

On histopathologic analysis, the specimen composed of a piece of fibrofatty tissue measuring 15 X 8 X 5mm, which was well circumscribed and lobulated. It also consisted of dilated and congested blood vessels, which were surrounded by uniform small cells with eosinophilic cytoplasm arranged in a trabecular pattern. The walls of the blood vessels were hyalinised. The appearances were consistent with a glomangioma and no evidence of atypia or invasive malignancy detected (Figure 2).

DISCUSSION

Glomus tumours were initially reported by Masson in 1924 who compared the lesions with a normal glomus apparatus and described its first histopathologic classification. [5] The differences between the solid glomus, glomangioma and glomangiomyoma are dictated by its predominant cellular contents namely glomus cells, blood vessels and smooth muscle respectively. They can present as a solitary lesion or in multiple nodules. [6] Those with multiple lesions are rare and found in children with autosomal dominant inheritance pattern. [7] In the literature, there are also reports of malignant change and local recurrences after incomplete excision. [8, 9]

Glomus tumours typically present in patients who are at the age of between 20 to 40 years. Digital Glomus tumours have shown to have a female preponderance while the extra-digital glomus tumours have shown to occur more commonly in males. [9] They are usually located in the dermis and nail beds of the hands with a bluish-red hue discolouration. Extra-digital locations have been reported at the hip, thigh, knee, ankle and foot. [8, 10 -13] Most extra digital glomus tumours are of vascular in origin as in this case. [8]

Majority of glomus tumours are diagnosed late, after several years of initial symptoms started. They present with intermittent, localised pain with hypersensitivity to light contact and temperature. [14] Our patient expressed these typical symptoms. A history of trauma in our patient at the onset of symptoms may be an incidental finding. Trauma has not been reported in the literature as a causative factor prior to clinical presentation. A described physical exam that supports the diagnosis of glomus tumour is the ischemia test (Hildreth sign) where a resolution of pain is demonstrated after inflating a tourniquet proximal to the lesion. [15] On the contrary, our patient still had symptoms following inflation of the tourniquet.

MRI is the investigation of choice as it provides more information on the position, size and extent of the lesion. [5] It helps us differentiate it from other conditions such as meniscal and chondral pathology, bursitis, or patellar tendon abnormalities. However, in our patient, the MRI scan was reported as a lesion suggestive of a neuroma. Similarity in appearance and rarity of the glomus tumour may have prompted the MRI diagnosis of neuroma. Surgery with complete excision of the swelling usually leads to a satisfying cessation of symptoms.

In conclusion, patients presenting with chronic localised knee pain, burning sen-

sation and swelling that failed medical treatment, extra digital glomus tumour must be considered. Complete resolution of symptoms can be expected following excision.

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