

Available online at www.sciencedirect.com

ScienceDirect

journal homepage: <http://Elsevier.com/locate/radcr>

Case Report

Brace yourself: an unusual case of knee pain, an extradigital glomangioma of the knee

Victoria V. Villescasc MD^{a,*}, Paul L. Wasserman DO^a, James C. Cunningham DO^a, Anwer M. Siddiqi MBBS (MD), MMSc^b

^a Department of Diagnostic Radiology, University of Florida College of Medicine—Jacksonville, 2nd Floor, Clinical Center, 655 West 8th Street, C90, Jacksonville, FL 32209, USA

^b Department of Pathology, University of Florida College of Medicine—Jacksonville, Jacksonville, FL 32209, USA

ARTICLE INFO

Article history:

Received 2 February 2017

Received in revised form

27 February 2017

Accepted 6 March 2017

Available online 8 April 2017

Keywords:

Knee

Glomangioma

Glomus

Extradigital

Tumor

Neoplasm

ABSTRACT

The differential diagnosis for knee pain is extensive. Glomus tumors comprise approximately 1.6% of soft-tissue tumors in the extremities. Classic subungual tumors occur more frequently in women, whereas ectopic locations are more common in men. Unusual locations include the stomach; lungs; trachea; bones; intestines; fallopian tubes; and intraneural, neuromal, and intravenous locations. We present the case of a 50-year-old man with a 12-year history of enlarging right knee mass found to be a glomangioma. This case report discusses the incidence, presentation, imaging characteristics, histology, and management of glomus tumors of the knee.

© 2017 the Authors. Published by Elsevier Inc. under copyright license from the University of Washington. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Case summary

We present a 50-year-old man with a past medical history of type-II diabetes and thromboembolic disease complaining of a 12-year history of a gradually enlarging mass located in the superficial soft tissues of the right knee. The mass was described as moderately tender to friction, pruritic, and sensitive to cold exposure. The patient presented to the emergency department at our institution for persistent bleeding after an attempted incision and drainage of a knee “cyst” by his primary care provider. The physical examination revealed

a 4.1 × 4.0 cm freely movable, rounded mass within the subcutaneous tissues of the right knee, immediately proximal and anterior to the patella.

Imaging findings

After the bleeding was controlled, the division of Musculoskeletal Radiology was consulted to perform an ultrasound of the lesion and assess for biopsy. The ultrasound revealed a solid mass that exhibited marked tortuous vascular flow as

Competing Interests: The authors have declared that no competing interests exist.

* Corresponding author.

E-mail address: victoria.villescasc@jax.ufl.edu (V.V. Villescasc).

<http://dx.doi.org/10.1016/j.radcr.2017.03.004>

1930-0433/© 2017 the Authors. Published by Elsevier Inc. under copyright license from the University of Washington. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

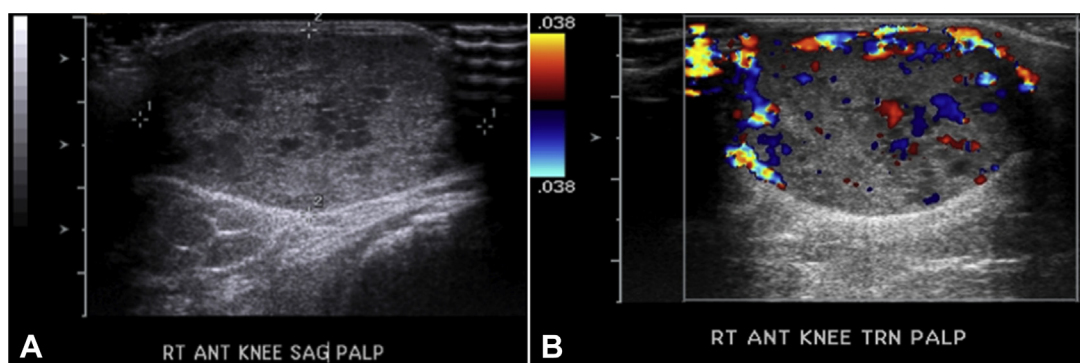


Fig. 1 – Ultrasound examination of the right knee. (A) There is a heterogeneous, hypoechoic, solid, and well-circumscribed mass corresponding to the patient's palpable complaint measuring $2.3 \times 2.7 \times 1.4$ cm. (B) Color Doppler shows extensive vascular flow within the lesion.

evidenced on color Doppler interrogation (Fig. 1). Because of the ultrasound findings and the history of uncontrolled bleeding after a recent attempted incision and drainage, biopsy of the mass was postponed until a magnetic resonance imaging (MRI) with contrast could be obtained. Meanwhile, Interventional Radiology was consulted for the possibility of prebiopsy embolization.

The MRI revealed a mass measuring $2.6 \times 5.0 \times 3.0$ cm (AP \times CC \times Trans) immediately deep to the skin surface and anterior to the proximal pole of the patella. The examination was negative for bone erosion or involvement of the quadriceps tendon insertion. A single septation was evident along the distal margin of the structure. The mass exhibited mildly heterogeneous T1 signal that was isointense to muscle. The T2 signal characteristics were also slightly heterogeneous but markedly bright. Contrast enhancement was intense and homogeneous (Fig. 2). At least 2 significant feeding vessels were associated with the mass.

After consulting with Interventional Radiology, it was agreed that the feeding vessels could be embolized before biopsy and total surgical excision. During the angiogram, a microcatheter was used to selectively catheterize the superior lateral branch of the superior geniculate artery. An early contrast blush with venous drainage was identified (Fig. 3). Subsequently, this feeding branch was embolized using 0.2×2.0 cm Hilal embolization microcoils (Cook Medical, Bloomington, IN). A similar procedure was used to embolize feeding branches of the middle lateral geniculate artery. A small tortuous feeding branch was also identified arising from the popliteal artery; however, this branch was deemed too small to access.

Post-embolization angiography and ultrasound examination revealed significantly decreased vascular flow within the mass. Subsequently, an ultrasound-guided, 18-gauge core biopsy was performed without excessive bleeding. The results of the biopsy revealed the diagnosis of a glomangioma.

Discussion

The differential diagnosis for knee pain is extensive. Glomus tumors are rare and comprise only 1.6% of soft-tissue tumors

in the extremities [1–3]. Generally seen in the hand, it is uncommon to see these lesions in the knee, and misdiagnosis leads to long delays in definitive treatment. The average duration of symptoms is reported to be between 7 and 11 years with 2.5 medical consultations before diagnosis is made [2,4]. The delay can be even longer for atypical locations. Classic subungual tumors occur more frequently in women, whereas ectopic locations are more common in men [1,3]. Unusual locations, where glomus bodies do not exist physiologically, include the stomach; lungs; trachea; bones; intestines; fallopian tubes; and intraneural, neuromal, and intravenous locations [2,5].

The normal glomus body is an arteriovenous anastomosis, which allows it to function as a receptor to control blood pressure and cutaneous temperature regulation by modifying peripheral blood flow [2,5,6]. Glomus cells have similar properties to smooth muscle cells, which allows for their contractile ability. Rohrich et al. suggested that changes in temperature could lead to contraction of myofilaments in the glomus cells, resulting in an increase in intracapsular pressure that could be transmitted by the unmyelinated nerve fibers, leading to the most common symptom of glomus tumors, pain [7].

Glomus-type tumors are benign neoplasms, which develop from the normal neuromyoarterial glomus body [2]. Glomus bodies are located within the reticular layer of the dermis throughout the body. In an article by Deok-Woo Lee et al., 152 cases of glomus tumors were reviewed, yielding 73.4% digital tumors and 27.6% extradigital tumors [3]. Schiefer et al. found strikingly different results. In their review of glomus tumors, of the 221 patients reviewed over a 20-year period, they found 61% of all glomus tumors to be extradigital, suggesting that an extradigital location may be more common than was initially thought [2]. Heys et al. also found similar results in their 1992 study, showing 67% of glomus tumors to be extradigital [8].

Glomus tumors of the knee have been reported in variable locations, including subcutaneously, subsynovially, within the patellar ligament, within the fat pad, laterally at the fibular head, and in the popliteal region [1]. Our glomus tumor was found within the subcutaneous tissues and was associated with pain, pinpoint tenderness, and hypersensitivity to cold exposure, all features associated with subungual glomus

Download English Version:

<https://daneshyari.com/en/article/8825434>

Download Persian Version:

<https://daneshyari.com/article/8825434>

[Daneshyari.com](https://daneshyari.com)