

Case Report

Posterior Knee Pain: An Unusual Cause

Alamgir Samdany¹, Guljar Ahmed², Abdul Gani Ahsan³

Received: June 13, 2014 Accepted: December 13, 2014 doi: 10.3329/jemc.v5i1.21499

Abstract

The pain around the posterior knee called 'popliteal fossa' has been known to be caused by a variety of disease entities. Whatever the causes, the challenge remains in diagnosis. Proper history and clinical examination followed by uses of appropriate diagnostic tools are secrets to success. Venous malformation is a very rare cause of pain in popliteal area and its diagnosis is frequently delayed, missed or given incorrectly. Here, we report a case of a 24-year-old patient who presented with posterior knee pain for 2 years and was diagnosed as a case of intramuscular arterio-venous malformation by lower limb angiography. This patient was treated successfully by surgical resection. His follow-up was satisfactory with no evidence of recurrence.

Key words: Popliteal fossa pain; Angiogram; Arterio-venous malformation

J Enam Med Col 2015; 5(1): 58–60

Introduction

Posterior knee pain occurs due to a wide variety of causes. The most common causes are Baker's cyst, soft tissue or bone tumour and injury to the meniscus, hamstring, popliteal tendon or ligament. However, neurological causes such as entrapment of the common peroneal nerve or tibial nerve and vascular causes like popliteal artery entrapment or vascular malformation are less common causes of pain.¹

Case Report

A 24-year-old male presented in the outpatient department of Orthopedics with the complaint of pain and swelling of right popliteal fossa for 2 years. There was no history of trauma or any other known medico-surgical cause. The pain was sharp in nature and he had pulling sensation on the back of his knee. Pain deteriorated on changing of position.

The swelling was obvious on standing and diminished on lying. It was pulsatile and nontender. After ultrasound scanning in the standing position, a compressible hypoechoic fluid sac was found between

the subcutaneous tissue and gastrocnemius muscle in the right popliteal area. Aspiration revealed venous blood-like fluid, but swelling did not collapse. A suspicion of venous anomaly was made and lower limb angiogram was performed (Fig 1).



Fig 1. Angiogram showing dye filled sac along with soft tissue around

1. Associate Professor, Department of Orthopaedics, North East Medical College Hospital, Sylhet

2. Associate Professor, Department of Surgery, North East Medical College Hospital, Sylhet

3. Assistant Professor, Department of Orthopaedics, Sylhet Women's Medical College & Hospital, Sylhet

Correspondence Alamgir Samdany, Email: asamdany@gmail.com



Fig 2. Per-operative pictures of the lump resection

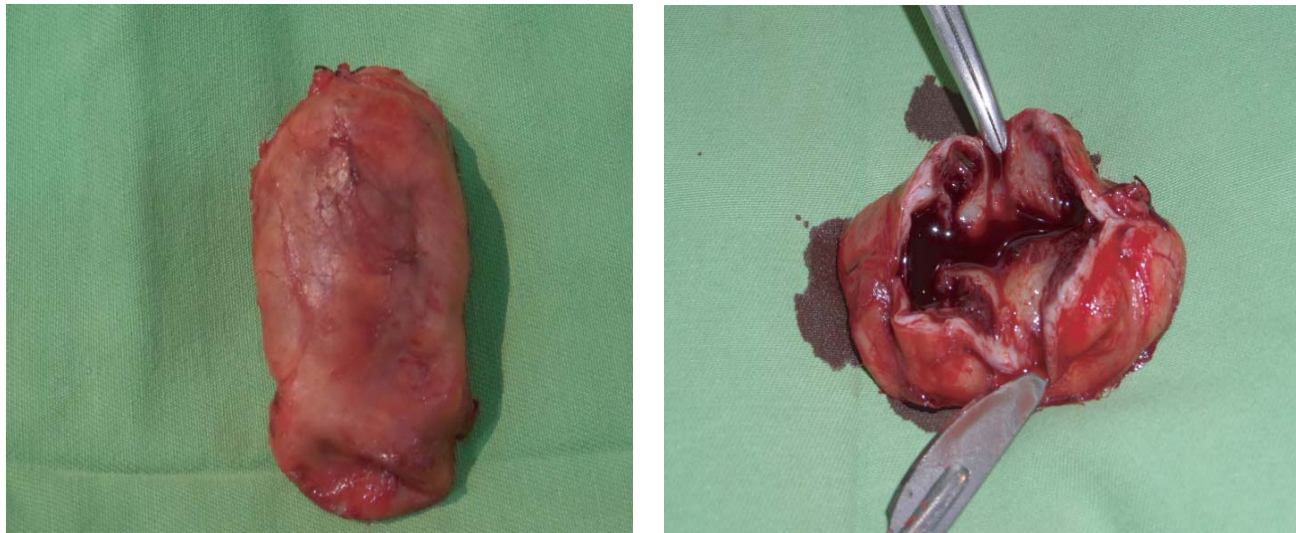


Fig 3. Exterior and interior features of the resected lump

Angiogram finding was a 3×3 cm area of swelling filled with dye at the back of his right knee. It also showed multiple dye-filled connecting vessels. The sac was removed under tourniquet, both feeding and draining vessels were ligated (Fig 2). Fig 3 shows the exterior and interior features of the resected lump. Wound healed without any complications. Histopathological diagnosis was arterio-venous malformation.

Discussion

Venous malformations are known to be one of the rare causes of pain in the knee. The prevalence of vascular malformations is approximately 1 in 5000 to 10000 child births.² Among these venous malformations are

the most common vascular anomalies of the limbs.³ In a recent study women were found more commonly affected than men⁴ and most of the patients were young.⁵ The pain is more commonly in the lower limbs than upper ones and is related frequently to muscle involvement, thrombosis and hamartoma.³ Furthermore, when the knee joint is invaded by venous malformation, functional limitation, haemarthrosis and arthropathy are also present with the pain.³ The incidence of knee venous malformation is unknown as the entity is rare.⁵ Therefore, a patient with posterior knee pain for long duration should be examined and investigated for vascular anomalies.

Ultrasound is an easily accessible non-invasive screening tool. Aspiration of the lesion would be

helpful. An angiogram will be explanatory. CT and MRI can be used as confirmative imaging tests for the diagnosis.

We suggest that if a patient comes with posterior knee pain, the possibility of arterio-venous malformation of knee should be considered along with other common causes such as musculoskeletal disease, cysts and soft tissue or bone tumour.

References

1. Mucche` JA, Lento PH. Posterior knee pain and its causes; a clinician's guide to expediting diagnosis. *Phys Sports Med* 2004; 32: 23–30.
2. Vikkula M, Boon LM, Mulliken JB. Molecular genetics of vascular malformations. *Matrix Biol* 2001; 20: 327–335.
3. Redondo P, Agundo L, Martinez-Cuesta A. Diagnosis and management of extensive vascular malformations of the lower limb: Part I. Clinical diagnosis. *J Am Acad Dermatol* 2011; 65: 893–906.
4. Mazoyer E, Enjolras O, Bisdoff A, Perdo J, Wassef M, Drouet L. Coagulation disorders in patients with venous malformation of the limbs and trunk: a case series of 118 patients. *Arch Dermatol* 2008; 144: 861–867.
5. Tsai A, Chaudry G, Spencer S, Kasser JR, Alomari AI. Misdiagnosis of knee venous malformation as juvenile idiopathic arthritis. *J Pediatr Orthop* 2011; 31: 683–690.