

BAKER'S CYST IN POPLITEAL REGION: A CASE REPORT

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ABSTRACT

Baker's cyst is the most common mass, found in the popliteal region. A Baker's cyst may be the result of an injury or inflammation of the knee joint. Baker's cyst found in between the tendons of medial head of gastrocnemius and semimembranosus muscles. The present case report describes a large cystic swelling on the right and a solid swelling on left side in the popliteal fossa. Baker's cyst has communication with joint cavity and filled with synovial fluid. Baker's cyst can be diagnosed by magnetic resonance imaging (MRI) and ultrasonography (USG).

KEYWORDS: Baker's cyst, Fluid, Popliteal region.

INTRODUCTION

The most common mass in the popliteal region is Baker's cyst. Cyst is a closed sac in or under the skin lined with epithelium containing fluid or semisolid liquid. Baker's cyst was first described by Dr. William Marrant Baker in 1877¹. It is a tumour or cystic lesions which commonly arises due to mucoid degeneration of various soft tissues like joint capsule or tendon or due to increased synovial fluid formed after meniscal or articular cartilage tear.

The cause is unknown, but it may be congenital or acquired due to repeated injuries to the tendon with subsequent cystic degeneration. It is a non-malignant, fluid-filled swelling formed by distension of the semimembranosus-gastrocnemius bursa. It is rare when it is in communication with joint cavity. In our case on right side it is cystic and it is in open communication with joint cavity but on left side it is solid and not communicating with the joint cavity.

MATERIAL AND METHOD

The present case report describes popliteal cyst on both the sides on the postero-medial aspect of popliteal region during routine dissection in the Department of Anatomy, S.M.S. Medical College, Jaipur, Rajasthan. In the popliteal region after reflecting the skin, superficial fascia and deep fascia a large cystic swelling on the right and a solid swelling on left side of postero-medial aspect of the popliteal region was seen. The tendon of semimembranosus and gastrocnemius were carefully exposed up to the mid of thigh and the leg. Cyst is extending around the tendon of semimembranosus on right side. Cystic swelling measures (Length- 5.5 cm, Breadth- 2.4 cm, Thickness- 2.1 cm) on the right side and solid swelling measures (Length- 5.1 cm, Breadth- 3.2 cm, Thickness- 1.9 cm) on the left side. On the right side the swelling disappeared by compressing but again reappeared when the pressure was released. This indicates that this cyst is communicating with the joint cavity through a narrow opening on the right side.

DISCUSSION

Baker's cyst is cystic or solid tumour which mostly involves muscle tendons, found in close proximity of joint capsule or menisci. Generally the cystic fluid is sterile and not commonly

associated with infection and treatment is conservative², but if it is infected then it is associated with painful limb swelling, fever, and persistent leukocytosis. It causes a grinding pain in the knee, made worse with movement. Guerra and colleagues found a 30% incidence of popliteal bursa in the anatomical dissection of cadavers. Johnson and coauthors demonstrated a 37% incidence of popliteal bursa seen by arthroscopy. In this case cyst is present between tendons of medial head of gastrocnemius and semimembranosus and also encircling the tendon of semimembranosus, which is a rare incidence. Its glistening appearance, characteristic location, and encapsulation determine that it is intertendinous Baker's cyst. On right side when incised longitudinally, transparent gelatinous fluid came out from the cyst and it is communicating with the joint cavity but on left side it is solid and it is not communicating with joint cavity.

These intertendinous popliteal cysts are difficult to diagnose clinically before surgery and to excise completely but may require the aid of ultrasonography or magnetic resonance imaging (MRI) for further structural detail.^{3, 4, 5} Due to its incomplete excision it may recur in 10 % of cases. Previously Baker's cysts were commonly detected by conventional arthrography or by computed tomography scanning.

On both the sides the Baker's cyst is present on postero-medial aspect of popliteal region. On right side it contains fluid, encapsulated, smooth, and glistening in appearance and its neck is present between the tendon of semimembranosus and medial head of gastrocnemius. While on left side it is solid, smooth, glistening in appearance and encapsulated and its neck is also present in between the tendon of semimembranosus and medial head of gastrocnemius. Communication with joint cavity is also present. These characteristic features are strongly suggestive of the Baker's cyst.^{6, 7}

Miller and coauthors confirmed a significant association of Baker cyst with effusion, meniscal tears, and degenerative arthropathy. The probability of a Baker's cyst in the presence of any one of the variable (i.e. association) is $P = 0.08-0.10$, of any two variables is $P = 0.19-0.21$, and of all the three variables is $P = 0.38$. However, no association was found between Baker's cyst and ACL tear. To our knowledge, this is the first case report of Baker's cyst arising of the semimembranosus-gastrocnemius bursa on both sides of lower limbs.

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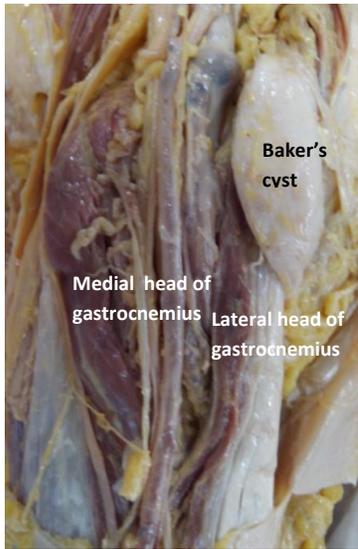


Fig 1: Baker's cyst in left popliteal region

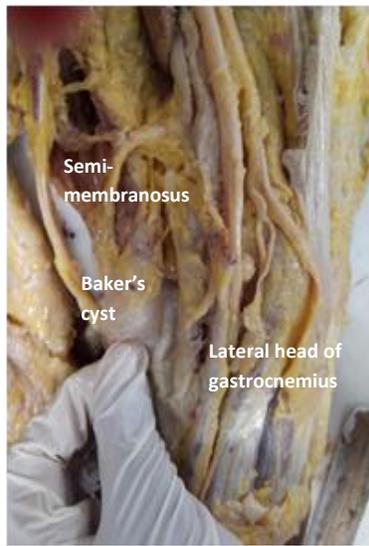


Fig 2: Baker's Cyst In right popliteal region



Fig 3: Baker's Cyst encircling semimembranosus

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