

CASE REPORT

An instance of Removing a Lipoma in the Popliteal Fossa Mimicking Baker's Cyst: A Case Report

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ABSTRACT

Introduction: Lipoma is a benign growth that develops from adipocytes. Lipoma is a prevalent condition, also known as 'Ubiquitous Tumor' as it can develop in any part of the body. However, it is the most frequently found in areas such as the nape of neck, back, suprascapular region, abdomen and thighs. Lipoma is conventionally treated by surgical excision.

Materials and Methods: In this case report, a 60-year-old patient presented with swelling at back of his knee (i.e., popliteal fossa) of right leg which was of normal skin color, mobile non tender. He got operated and lipoma was completely excised.

Results and conclusion: Based on the location of the swelling and clinical s it resembles Baker's cyst. This uncommon case highlights the importance of thoroughly examining all swellings and conducting appropriate investigations beforehand.

KEYWORDS

• Baker's cyst • Lipoma • Popliteal fossa

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INTRODUCTION

Lipoma is a benign, slow growing tumor composed of mature fat cells. Lipomas typically have soft and doughy consistency, subcutaneous, semi-fluctuant, lobular swellings. They are generally painless and can range in size from 2 to 20 cm. Lipoma can sometimes though rare, be associated with certain disorders such as multiple hereditary lipomatosis, Gardener Syndrome, adiposis dolorosa and Madelung disease. In the population, 2.1out of every 100 person will suffer from lipoma.

A Baker's cyst also known as a popliteal or parameniscal cyst, is a fluid filled sac that forms in the posterior aspect of knee, typically located between the semi-membranous and medial head of the gastrocnemius.

CASE DESCRIPTION

A 60-year-old male patient presented in Shalya Tantra OPD at ITRA, Jamnagar with concerns about a swelling in the back of his right knee (i.e. popliteal fossa) due to its substantial size, it has interfered with his everyday activities and caused discomfort while sitting for past 2 years.

No any significant family history or past history were present. Patient had no any addiction history and vitals were stable clinically.

Table 3: Timeline of case

Date	Day	Detail of Event
20/8/2023	Day 0	Initial assessment and diagnosis
21/8/2023	Day 1	Excision of Lipoma
23/8/2023	Day 3	Wound was opened and dressing was done with povidone iodine
27/8/2023	Day 7	As mentioned above dressing was done
30/8/2023	Day 10	Sutures were removed and wound healed completely

DIAGNOSTIC ASSESSMENT

Physical examination revealed large, soft, smooth, painless mobile swelling at the right knee (popliteal fossa) resembling Lipoma of size 12* 15 cm. Based on these symptoms, the presented condition was diagnosed as lipoma.

THERAPEUTIC INTERVENTION

According to the history and clinical examination, it was determined that the growth

CLINICAL FINDINGS

The patient was hemodynamically stable. The clinical findings of general examination were depicted in Table 1 and 2.

Table 1: Inspection of swelling

Site	Popliteal fossa of right leg
Size	12 x 15 cm
Shape	Circular
Inflammatory sign	Absent

Table 2: Palpation of swelling

Appearance	Hard cystic, mobile, lobulated swelling.
Tenderness	Absent
Fluctuation test	Negative
Slip sign	Negative
Pinch test	Negative
Punctum	Absent

Ultrasonography: The USG revealed signs indicating the presence of a Baker's cyst on the right knee, measuring approximately 12 x 15 cm in size as shown in Figure 1.

Timeline

The timeline of the clinical events in the case is described in Table 3.

was a lipoma. However, the ultrasonography reports indicate that it was a Baker's cyst. Excision was done under spinal anesthesia. The Orthopedic Surgeon had intended to remove the area under the skin but after completing the procedure, they find a lipoma at that site which was encapsulated(enucleated) of size 12x15cm (approx). They proceeded to carefully remove the lipoma. After the surgery, the wound was examined to check for any collection in dead spaces, but the stitches were found to be in good

condition. The patient's wound healed after the stitches were removed on post operative 10th day. There were no complications during the postoperative period and the patient eventually made a full recovery. A detailed therapeutic strategy was selected and adopted, as listed in Tables 4 and 5.

Clinical images are shown in Figure 2 – Figure 8.

Table 4: Therapeutic Intervention

Intervention
Excision of lipoma done under Spinal Anesthesia

Table 5: Procedure for excision of Lipoma

Pre-Operative Procedure	Patient was prepared for surgery. For Surgery, Inj. T.T. 0.5ml IM and Inj. Xylocaine sensitivity 0.1 ml subcutaneously was done. Before proceeding to surgery. Inj. Taximax 1.5g IV and Inj. Rantac 2cc IV was given.
Operative Procedure	After inducing spinal anesthesia, patient was given prone position. Then the skin is then cleansed with povidone iodine (Betadine). The area is draped with sterile towels. A small incision was made over the swellings. Then after dissection it was felt like lobulated swelling. Then curette is placed inside the wound and used to free the lipoma from the surrounding tissue. Once freed, the tumor is enucleated through the incision using the curette. Then sutures are applied.
Post-Operative Procedure	In post-operative period, antibiotics 3 doses were given and after wound was opened after 3 days and check for any pus collection.

Follow-Up-

The patient was advised to visit OPD daily for follow-up and clinical assessment. For clinical evaluation, symptoms, such as postoperative pain, increased local temperature, swelling, were assessed till the end of treatment. A visual analog scale was used to assess postoperative pain.

On the day of the intervention, there was moderate pain with a mild increase in local temperature, and mild swelling at the operation site. All postoperative symptoms were gradually relieved, and wound completely healed on the 10th day of treatment. It was observed that there was no primary and reactionary hemorrhage, no sign of infection (pus) or sepsis found during the treatment (Table 6).

Table 6: Follow-up and outcomes

Signs and Symptoms	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10
Post-Operative Pain (VAS Score)	Moderate	Moderate	Mild	Mild	Mild	Absent	Absent	Absent	Absent	Absent
Increase in local temperature	Mild	Mild	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
Local Swelling	Mild	Mild	Mild	Absent	Absent	Absent	Absent	Absent	Absent	Absent

VAS SCORE- Visual Analog Score

No pain - 0, Mild pain - 1-3, Moderate pain - 4-6, Severe pain - 7-9, Worst pain - 10.

OUTCOME

No complications were detected during the post-operative and follow up period. The wound healed completely.

DISCUSSION

In this case study, the result and location of swelling imitated that of a Baker's cyst. Baker's cyst is termed as MB cyst a British Surgeon (1839-1896) Marrant Baker who described this condition first time. This cyst is also termed as popliteal cyst due to its location at popliteal

fossa when an excess fluid from knee joint is collected in sac due to osteoarthritis or rheumatoid arthritis. In this specific scenario, there is evidence of a Baker's cyst due to swelling. However, after a more thorough medical evaluation and also during surgery it was provisionally diagnosed as lipoma. The ultrasound also suggested the presence of Baker's cyst, but the local examination surgical findings revealed different results.

A Lipoma is composed of fatty tissues and is usually surrounded by thin layer of connective tissue associated with pain and tenderness

while pressing on the swelling whereas Baker's cyst is filled with synovial fluid and associated with pain or stiffness while extending the knee and there may be warmth around the cyst. It is usually seen in cases of arthritis and knee injury. Transillumination test is positive in Baker's cyst. Lipoma is completely curative after it is surgically removed while Baker's cyst may recur if the underlying condition is not addressed.

While doing popliteal surgery, maintain the position of the patient to avoid pressure injuries and ensure optimal access to the popliteal fossa. Carefully identify and protect nearby neurovascular structures such as popliteal artery and tibial nerve. Encourage early mobilization to prevent stiffness and promote recovery in post operative phase. Elevate the leg on a pillow while sitting or lie down for the first 3 days.

Hence this case highlighted that lipoma can occur at rare places like popliteal fossa which mimic to Marrant Baker's cyst (MB).

LIMITATIONS OF STUDY

The patient did the baseline investigations from outside before visiting the OPD. He was not willing to undergo any further investigations. Hence, the radiological and histopathological tests were not performed in this case study. The diagnosis was based on clinical assessment only. Such diagnostic tools may help in confirming the diagnosis.

CONCLUSION

This rare case highlights the importance of thoroughly examination and investigation before surgery. Despite the initial clinical diagnosis of a lipoma and the ultrasonography results indicating a Baker's cyst. It was also found during operation that the swelling was actually a diffuse lipoma. This serves as a reminder to always consider other possibilities also and not to solely rely on one form of diagnosis. By taking proper history, conducting proper physical examinations, and considering differential diagnosis, we can prevent potential harmful consequences and provide accurate treatment for our patients. Therefore, in the interest of our patient's well-being, it is crucial to prioritize thoroughly examinations and investigations in our

medical practice. This is the reason why history emphasizes the importance of both diagnosis and differential diagnosis. This unique case demonstrates the essentiality of both clinical evaluation and investigations prior to surgery. This also serves as a reminder that we should prioritize our clinical examination and not solely rely on diagnostic tools.

Patient Perspective

I am feeling very well after the treatment. I am happy that the condition was solved after the surgical procedure. I acknowledge the relief and the improvement in the general well-being after this treatment.

Author Contribution

All the named authors meet the International Committee of Medical Journal Editors (ICMJE) criteria for authorship for this article and take responsibility for the integrity of the work as a whole and have given their approval for this version to be published.

Declaration of Patient Consent

The authors made it known that they have obtained the patient's consent form and that both the patient and their relatives have given permission to publish their case, clinical images and information in a journal. The patient is aware that their identity will not be disclosed.

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