

Case Report

A 60 Years Old Woman with Ganglion Cyst of Popliteus Tendon Sinistra

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ABSTRACT

The popliteal ganglion, also known as Baker's cyst, is an abnormal, fluid-filled distension of the gastrocnemius-semimembranosus bursa. These cysts rarely manifest alone and are often associated with intra-articular pathology and inflammatory conditions, such as osteoarthritis, meniscus tears, and rheumatoid arthritis. A 60-year-old woman came to the surgery clinic of Dr. Sayidiman Magetan hospital with complaints of lumps in the left knee crease. The patient noticed a lump in the crease of her left knee for two months. The patient said she did not feel pain in the lump, but the patient sometimes felt stiffness in the lump area when the patient worked in the fields. The localization status on inspection showed a mass in the popliteal area of the knee, which was round and well-defined. On palpation there is no pain, and can be moved mobile. Non-medical management is surgery/extirpation of the tumor mass.

Keywords: baker's cyst, extirpation, popliteal ganglion

INTRODUCTION

A ganglion is a cystic formation, close to joints or tendinous sheaths frequently found in the wrist, foot, or knee. It can be single or multi-lobed, with clear gelatinous, colloid or mucinous content. Ganglia located at the dorsum of the foot or the wrist and those close to the interphalangeal articulations are of easy clinical diagnosis, commonly found in clinical practice and usually called 'synovial cysts' (1).

However, deeper ganglia, such as those found in the forearm, in the periacetabular region, or the suprascapular notch and intra-articular knee ganglia, are challenging to diagnose clinically, especially when not palpable (2,3). These are accidentally found when magnetic resonance imaging scans or arthroscopy are performed. Its etiology remains unknown. The clinical picture of knee ganglia consists

of pain and sometimes restriction in the final degrees of extension. These symptoms are alarming to the patient, which makes diagnosis and specific treatment necessary (1). We report a case of popliteal ganglion in a 60 year old patient.

CASE DESCRIPTION

A 60-year-old woman with the initials T came to the surgical clinic complaining of a lump in the crease of her left knee. The patient noticed a lump in the crease of her left knee for two months. The patient said she did not feel pain in the lump, but the patient sometimes felt stiffness in the lump area when the patient worked in the fields. The patient said that when the stiffness appeared, the patient felt better at rest. Systemic symptoms such as dizziness, nausea, vomiting, weakness of the extremities, and pain were denied.

Examination of the patient's vital signs, the patient's general condition looks good, consciousness *compos mentis* GCS E4V5M6, pulse 79x/minute, respiratory rate 20x/minute, body temperature 36.5°C, blood pressure 140/80 mmHg and oxygen saturation 98%. The localization status on inspection showed a mass with a diameter of 5 cm in the popliteal area of the knee, which was round and well-defined. On palpation, there is no pain, and it can be moved (mobile). There are no signs of acute inflammation. The consistency is rubbery, not attached to the skin, and well-demarcated. The patient also presented limitation in the range of knee extension. Laboratory examination of the patient's complete blood showed Hb 13.9 g/dL; HCT 40.5%; platelets 247 x 103/ μ L; Leukocytes 7.4 x103/ μ L; neutrophils 69%; Lymphocytes 23%; monocytes 7%; eosinophils 0%; basophils 0%; MCV 86.9 fL; MCH 29.8 pg; MCHC 34.3 g/dL. Examination of clinical chemistry blood sugar when 98 mg/dL. A history of similar illness was denied, a history of allergies was denied, a history of similar conditions suffered by the family was denied, and a history of other diseases suffered now and in the past was denied. A history of having certain habits was denied, and a history of trauma was denied. ECG examination: normo sinus rhythm. Chest X-ray AP cast: normal size, Pulmo D/S: no infiltrate/fibrosis/calcification, normal hilum, normal vascular. Hemidiaphragm D/S: Dome-shaped. Sinus Costophrenicus D/S: Sharp. Impression: Cor and Pulmo are within normal limits. Immunological Examination Rapid test for SARS Cov-2 antibodies, Ig-M: Non-Reactive, Ig-G: Non-Reactive. Conclusion Rapid SARS Cov-2 Non-Reactive. Based on the history, physical

examination and supporting an examination of the patient, it can be concluded that the working diagnosis is a ganglion cyst of popliteal tendon sinistra.

Non-medical management is planning to do surgery to extirpate the tumor mass. Medical management is giving IVFD RL, PZ 100cc, Inj. Cefazoline, Inj. Lactopain, and Inj. Topazole. Blood laboratory examinations, including rapid tests, showed good results. The patient was fasted and was consulted by an anesthesiologist. Pre-operation was performed on the patient; the patient was given a cefazolin injection, then surgery was performed, namely extirpation in the operating room to take the mass. The general condition of the post-operation patient is good, and vital signs are good. Post-operation the first day, the wound felt a little sore, the patient was given Inj. Ketorolac. After 1 day post-operation, the patient was allowed to go home and given pain relief medication and control according to the wound evaluation, drug administration, and wound care schedule.

DISCUSSION

The knee joint is composed of various types of tissues, including ligaments, tendons, cartilage, and bones. Posterior to the knee joint is the popliteal fossa. The popliteal fossa is a diamond-shaped area bounded by muscles in the posterior compartment between the calf and thigh. These four boundaries consist of the superomedial boundary is the semimembranosus muscle; the superolateral boundary is the biceps femoris muscle; the inferior border is the medial head of the gastrocnemius muscle; The inferior border is the lateral head of the gastrocnemius and plantaris muscles (4–6).

The knee joint also contains an anatomical structure called a bursa. A bursa is a fluid-filled structure between the skin and a tendon or a tendon and bone. The primary function of the bursa is to reduce friction between adjacent moving structures. The bursa of the knee is a sac of the fluid and synovial sac that surrounds and sometimes communicates with the joint cavity. Because it is thin-walled and filled with synovial fluid, it is a weak point of the joint which can result in the enlargement of the shared space (7,8).

A popliteal ganglion cyst or Baker's cyst is an abnormal fluid-filled distension of the gastrocnemius-semimembranosus bursa. The cyst usually extends posteriorly between the tendons of the medial head of the gastrocnemius muscle and the semimembranosus muscle through a channel connecting the knee joint. Cysts are most common on the posteromedial aspect of the knee. Baker's cysts are a common occurrence in adults and rarely in children. The prevalence of Baker's cyst was significantly higher in those over 50 years of age, with no predisposition for race or gender (9,10).

Baker's cysts can be classified into primary or idiopathic and secondary. Primary Baker's cyst if the bursa semimembranosus distension with the knee joint is not associated with other joint diseases. There is no association between the bursa semimembranosus - gastrocnemius and the knee joint cavity. Secondary Baker's cyst is related to disease in other joints, and there is an open relationship between the semimembranosus -gastrocnemius bursa and the knee joints. Most Baker's cysts are cyst secondary and related to joint degenerative disease knee (1,11).

Pathogenesis Baker's cyst in adults is related to existing channel connections among joints, the knee, the gastrocnemius semimembranosus bursa, and mechanics liquid. Bursa gastrocnemius - semimembranosus is located between the gastrocnemius tendon and the semimembranosus muscle and describes normal anatomy. This Exchange relates to the capsule joints knee through a gap transversely on the posterior capsule at the level of the medial femoral condyle, where the gastrocnemius tendon fuses with capsule joints—gap-shaped horizontal measuring from 4 to 24 mm. The connection between the bursa and capsule joints is almost not found in children, and the gap increases with enhancement age. Integrity capsule joints decrease with age, and according to the theory gap, this results from the rupture of capsule joints due to the degeneration process. The existence connection between bursa gastrocnemius - semimembranosus and capsule joints allows happening movement of fluid synovial between two rooms (12,13).

Baker's cyst is usually not abnormality alone, cyst this generally related to intra articular abnormalities. Abnormalities intra articular cause effusion joints that increase pressure in room joints. Effusion joints and fibrin is pumped from the joint's knee to the cyst. Fibrin functions as valve one blocking direction return effusion to in joints knee. Trapped effusion with normal viscosity inside cyst absorbed through membrane semipermeable, leaving fibrin concentrate. Baker's cyst in children can be idiopathic, related to juvenile rheumatoid arthritis or hemophilia. Baker's cyst in juvenile rheumatoid arthritis is associated with effusion joints knee (10,12).

Manifestation clinical of Baker's cyst varies. In children, cysts are often incidental to the examination physique because not symptomatic. But can also cause feelings of no comfortable, limited movement, and palpable mass in rego painful popliteal. Presentation clinical in patients mature could be in the form of a sore equivocal posterior knee, swelling or mass local, and feeling tense in the popliteal area. Symptoms and findings are often related to related disorders with a cyst, like a meniscus tear or arthritis. Enlargement progressive from Baker's cyst can cause disturbances in flexion and extension entire knee, pseudothrombophlebitis, consequence leakage or rupture from cysts, and deep vein thrombosis consequence of compression directly on the popliteal artery and vein (14).

Ultrasound is a tool for non-invasive imaging that is readily available, accurate, and economical for diagnosing pathology network soft in the region knee, including Baker's cyst. Ultrasound allows evaluation type of lesion, size of the cyst, relationship with adjacent muscles, tendons, blood vessels, and presence of septation intracystic. The disadvantages of ultrasound are: not sensitive enough to intra- articular lesions, so that requires imaging more carry on for confirming the existence of related internal damage (11,12).

MRI is considered the gold standard in visualizing and characterizing the mass knee. MRI can confirm the unilocular and cystic nature of cyst popliteal tame, evaluate the relationship with structure anatomy in joints and tissues surroundings, and describe associated intra articular pathology. Therefore, MRI is non-invasive

and does not involve exposure to radiation (15).

The underlying cause and related condition determine many choice therapies for Baker's cyst. Sometimes without treatment or action, supportive simple produces a resolution of a spontaneous cyst or subtraction-associated symptoms. _ Otherwise, minimally invasive and surgical techniques are alternative therapy. Ultrasound-guided aspiration with corticosteroid injection is a relatively low-risk and successful procedure for treating knee osteoarthritis with Baker's cyst. Another therapy method is sclerotherapy. This method use irritates/makes sclerosis with give agent sclerosing like ethanol, phenol, tetracycline, Streptococcus pyogenes group, and others (15).

The differential diagnosis of a ganglion is a lipoma and sebaceous cyst. Examination to support the ganglion is a radiographic examination, ultrasound, CT-Scan, and MRI. The complete blood count and clinical chemistry were within normal limits. ECG examination within normal limits. A diagnosis of the left popliteal ganglion was obtained from the anamnesis, physical examination, and supporting analysis. Governance there is medicine and surgery. Therapy medicine conducted aspirations ultrasound-guided with injection corticosteroids. Surgery performed with indication: cosmetics, for evaluation network when accompanied symptoms, grow up more than 5cm. Surgery should be quickly conducted because the more minor the tumor will be, the easier the excision to work on. Surgery extirpation was undertaken to remove the tumor and tissue from the capsule so that the tumor does not appear back. Patients

underwent surgery extirpation in the region popliteal sinistra to lift tumor tissue with the capsule.

CONCLUSION

Popliteal ganglion cyst, or Baker's cyst, is the most common cystic lesion around the knee joint. This cyst is a mass located on the posteromedial aspect of the knee. A 60-year-old female patient came to the surgical clinic complaining of a lump in the left knee crease. The results of the history, physical examination, and investigations showed the left popliteal ganglion. Furthermore, preparations for surgical destruction of tumor tissue were carried out.

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CONFLICT OF INTEREST

The authors declare that they do not have a conflict of interest and that they do not have affiliations or relationships with any organization or entity that could raise biased questions or statements in the discussion and conclusion sections of the paper.

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