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Case report

Popliteal cyst simulating a Baker's cyst in a patient with Rheumatoid Arthritis: a case presentation

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ABSTRACT

Baker's cyst is the most common mass located in the back side of the knee, the popliteal fossa, in patients with degenerative and inflamatory disease of the knee. Popliteal mass may also be due to proliferation of adipose tissue, popliteal artery aneurysm, thrombotic vein, or tumor. These lesions are rarer and may easily be misinterpreted as cysts. We show a man with rheumatoid arthritis who is presenting a palpable mass in the popliteal fossa. Ultrasonography examination demostrated a popliteal artery aneurysms.

Aneurisma poplíteo que simula quiste de Baker en un paciente con artritis reumatoide: a propósito de un caso

Palabras clave:
Quiste Baker
Ecografía
Aneurisma poplíteo

RESUMEN

El quiste de Baker es una colección anormal de líquido sinovial en la bursa gastrocnemio-semimembranosa que puede observarse, con cierta frecuencia, en el hueco poplíteo de pacientes con patología de la rodilla. Sin embargo, también es posible encontrar tumoraciones derivadas de estructuras vasculares o neurológicas. Presentamos el caso de una paciente con artritis reumatoide en el que el examen ecográfico efectuado con la sospecha de quiste de Baker detectó un aneurisma de la arteria poplítea.

Introduction

In patients with osteoarthritis and inflammatory joint diseases, you can commonly see a swelling full of fluid in the popliteal fossa, called a Baker's[1,2] cyst, caused by gastrocnemius-semimembranosus bursa distension, or by a herniation of the posterior joint capsule with synovial fluid tension. Baker's cysts can extend distally, dissecting the anatomical planes of the soft tissue of the calf and even breaking up, simulating a deep vein thrombosis. However, the popliteal fossa can also contain swellings derived from different vascular, neurological and muscle-tendon anatomic structures. Among them, the popliteal artery aneurysm is the most frequent vascular swelling in the popliteal fossa; it is the most frequent location for peripheral arterial aneurysms (70%).

Physical examination[3] does not allow for a certain differential diagnosis between these two disorders. In fact, a palpable mass in the popliteal fossa could simply be an accumulation of adipose tissue. This differential diagnosis can be established using a musculoskeletal ultrasound[4,5] as a simple, accessible, non-ionizing technique, which is quick and easy for the patient. As is well known, it allows vessels and inflammatory lesions in the joints, muscles and tendons to be seen when associated with the colour Doppler. It is also useful when used as a guide for aspiration and infiltration because it increases the success rate and profitability of these procedures.

Case report

A 60-year-old male patient who has had rheumatoid arthritis for 6 years and is treated with 1,500 mg sulfasalazine and 6 mg deflazacort per day, who has good clinical and laboratory control of his disease. He is a 20 cigarette-a-day smoker with chronic ischemic heart disease. During a regular check-up, he indicates the appearance of a

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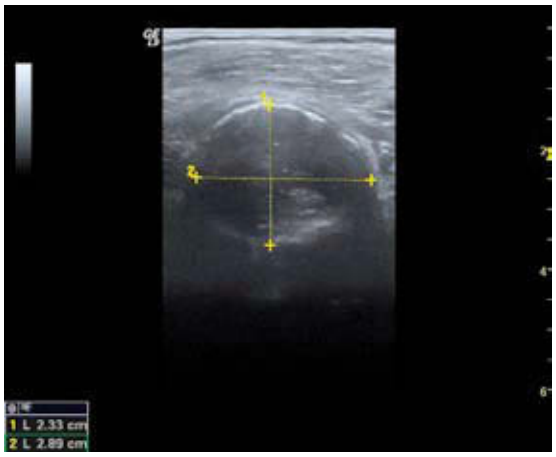

Figure 1. Cross-section: popliteal artery aneurysmal dilatation with a thrombus on the inside.

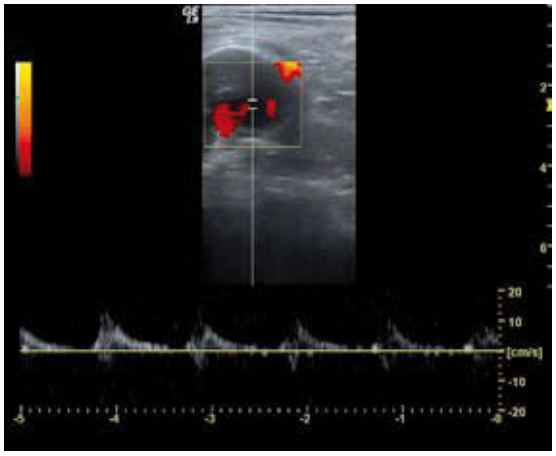

Figure 2. Colour Doppler cross-section.

painful swelling in the right popliteal fossa, whose pain increases with prolonged standing. Upon physical examination, a non-pulsatile central media swelling is found in the popliteal fossa and a Baker's cyst is suspected.

An ultrasound is performed to confirm the diagnosis, using GE LOGIQ 9 ultrasound equipment, whose software allows a panoramic image to be taken (LOGIQ view) using a 9-12 MHz linear probe. An aneurysmal dilatation of 2cm in the superficial femoral artery and one of 2.33cm in the popliteal artery of the lower right limb with distal popliteal occlusion is seen ([Figure 1], [Figure 2] and [Figure 3]).

Discussion

The popliteal artery[6] is the most frequent location for peripheral artery aneurysms. They usually appear in males within the age range of 60 to 70 years old and are frequently associated with aortoiliac aneurysms. Their most important characteristic is that, independent of their diameter, they lead to ischemic complications. It is estimated that even precise physical examination diagnoses only 50% of them because small aneurysms are not palpable and are not always

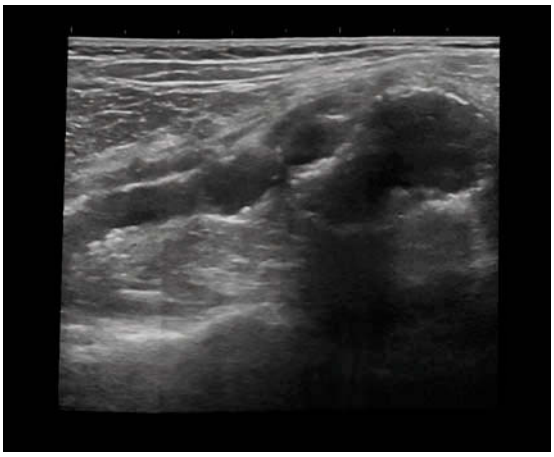

Figure 3. LOGIQ view mode (panoramic view): popliteal aneurysm and femoral aneurysm.

pulsatile, just as in our case. Ultrasound[7] has been shown to be better than physical examination and even than arteriography. This is because many aneurysms cannot be detected through arteriography, as they are occupied by thrombus. An ultrasound lets not only the aneurysm walls but also the internal clots be seen. It has also been shown that aneurysm size and ultrasound extension correlate well with surgical findings. Compared to ultrasound, arteriography is not able to show areas of the aneurysm that are occupied by thrombus and it usually underestimates the aneurysm size, while physical examination tends to overestimate them due to fat present in the popliteal fossa. Ultrasound overcomes these limitations and also allows the differentiation of other masses frequent in the popliteal fossa in patients with inflammatory joint diseases, such as Baker's cyst.

Conclusions

Physical examination is not enough to differentiate Baker's cysts from popliteal aneurysms, as they always appear as pulsatile masses. The musculoskeletal ultrasound, with the aid of the colour Doppler, is the preferred differential diagnostic choice for swellings in the popliteal fossa. This is the reason why it should be available to rheumatologists in their daily practice.

Conflict of interest

The authors declare no conflict of interest.

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