Case Report

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Pseudothrombophlebitis syndrome in late onset rheumatoid arthritis

Abstract

Introduction: The term “phlebitis-like” syndrome or pseudothrombophlebitis represents a real diagnostic challenge for the clinician, especially in the elderly subject. It may be secondary to a popliteal cyst, focal myositis, or a disrupted popliteal aneurysm in the calf. We present a case of pseudothrombophlebitis secondary to a broken Baker’s cyst in an elderly patient with rheumatoid arthritis (RA).

Observations: A 60-year-old patient, followed for peripheral hypothyroidism related to Hashimoto’s thyroiditis and a well-balanced seropositive RA under disease-modifying antirheumatic drugs (DMARDs) and hormone replacement therapy. She was referred urgently for suspicion of lower limb phlebitis: acute pain with swelling of the right calf with increased calf perimeter, local inflammatory signs and a positive Homans sign. Doppler ultrasound showed no thrombophlebitis but objectified a right popliteal cyst ruptured in the calf. Under oral and topical anti-inflammatory treatment, the evolution was favorable.

Conclusion: The ruptured Baker cyst deserves to be known and evoked as possible diagnosis of a large acute leg simulating phlebitis, especially in aged person with RA, because the therapeutic implications are totally different.

Keywords: Phlebitis-like syndrome, pseudothrombophlebitis, popliteal cyst, Baker’s, cyst, rheumatoid arthritis, elderly

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Introduction

Pseudothrombophlebitis or phlebitis-like syndrome represents a real diagnostic challenge for the clinician, especially in the elderly subject. It may be secondary to a fissured/ruptured popliteal cyst, focal myositis, or a ruptured popliteal aneurysm in the calf.[1,2] The popliteal cyst or Baker’s cyst is a fairly common complication of rheumatoid arthritis (RA) but often remains under-diagnosed clinically: in the Andonopoulos AP et al series, his systematic ultrasound search in a RA population was positive in 47.5% of cases; it was diagnosed clinically only in less than half of cases (43%).[3] Its rupture in the calf represents a real diagnostic challenge for clinicians because it can mimic calf thrombophlebitis and lead to unnecessary anticoagulant treatment.[1,3,4]

Here, we describe an exceptional case of phlebitis-like syndrome caused by a ruptured popliteal cyst in patient with late onset rheumatoid arthritis.

Case report

A 60-year-old patient, followed for peripheral hypothyroidism related to Hashimoto’s thyroiditis and a well-balanced seropositive RA under DMARD and hormone replacement therapy, was referred urgently to our department for suspicion of lower limb phlebitis. The diagnosis of RA was made three months ago based on the following arguments: bilateral and symmetrical distal polyarthritis of both hands, wrists and ankles, morning stiffness of more than 30 minutes, marked synovitis of the metacarpophalangeal and distal interphalangeal joints of both hands, marked biological inflammatory syndrome, erosions of the carpal bones on hand X-rays, and positive anti-CCP autoantibodies at 120 IU.

The patient was treated with glucosteroids (30 mg/day initially then progressive decrease to 5 mg/day), methotrexate (10 mg/week), calcium (1g/day), vitamin D (100.000IU/3 months), and folic acid (10 mg/week) with complete remission. These current complaints dated back two days before his admission to our department, with acute pain with swelling of the right calf without any notion of trauma or fever or other systemic sign.

The somatic examination noted a swollen and painful right calf on palpation with local inflammatory signs, partial functional impotence, and pain on dorsiflexion of the ipsilateral foot (positive Homans sign). Peripheral pulses were present and symmetrical and no systemic inflammatory signs were noted. The basic laboratory assessment (hemogram, erythrocyte sedimentation rate, C-reactive protein, blood glucose, creatinine, ionogram, hepatic tests, muscle enzymes, lipid parameters, thyroid hormones, and urinary sediment) did not reveal any abnormalities. Similarly, the electrocardiogram and chest X-ray were without abnormalities.

Doppler ultrasound showed no thrombophlebitis but objectified a right popliteal cyst ruptured in the calf (Figure 1 & 2) with a huge fluid collection into the right gastrocnemius muscle layers (Figure 3). The patient was treated with oral and topical nonsteroidal anti-inflammatory drugs for two weeks with favorable outcomes: progressive disappearance of pain and swelling of the calf with return to normal ten days after treatment. The two-week follow-up ultrasound showed complete resorption of the fluid collection in the calf.

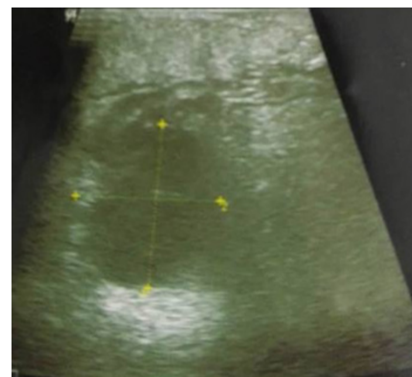

Figure 1 Right calf ultrasound: Popliteal cyst.

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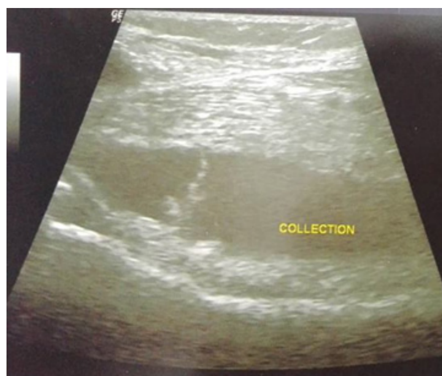

Figure 2 Right calf ultrasound: Ruptured popliteal cyst into the right gastrocnemius muscle.

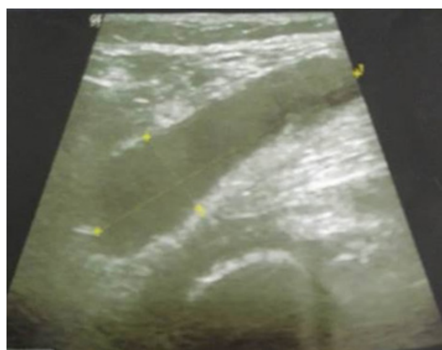

Figure 3 Right calf ultrasound: a huge fluid collection into the right gastrocnemius muscle layers.

Discussion

Described first by William Morrant Baker in 1877,[5] Baker's cyst or popliteal cyst is a benign bursitis secondary to the passage of articular fluid from the knee joint into the gastrocnemius-semimembranosus bursa.[6,7] Popliteal cyst is frequent in elderly and usually coexistent with joint pathology.[6,7] Its frequency is estimated at 32% in patient with knee problems.[6] However, the prevalence of popliteal cyst remains low in the general population. Indeed, in the large series of Daniels P et al of 357,703 lower extremities venous duplex ultrasound performed in 237,052 patients with a mean age of 63.3±16.6 years, a Baker's cyst was identified in only 32,448 patients; 9.1%.[8]

The majority of these cysts remain asymptomatic[6–8] and clinical examination often reveals a painless and renitent mass in the popliteal fossa.[6–9] Rupture of a Baker's cyst in the calf may manifest as: palpable tender popliteal mass,[10] popliteal ecchymosis,[11] or more serious pictures of nerve, venous or arterial compression (gastrocnemius muscle atrophy, paresthesias, and pain, chronic calf swelling and pain, and lower limb intermittent claudication),[12] and even serious complications such as acute ischemia of the limb.[13]

Thrombophlebitic presentation of ruptured popliteal cyst is exceptional even in RA et represent a real diagnostic and therapeutic challenge.[2,4,7,14,15] A hasty diagnosis of thrombophlebitis can lead to unnecessary and sometimes dangerous anticoagulant treatment in the elderly.[1,16] Indeed, in the series of Tejero S et al, therapeutic doses of low molecular weight heparins was in 7 cases of ruptured Baker's cyst misdiagnosed as thrombophlebitis. This unjustified treatment led to the worsening of patients' symptoms causing compartment syndrome in the leg and requiring urgent fasciotomy in four patients.[16] Venous Doppler ultrasound and magnetic resonance imaging are very useful for the differential diagnosis of these disorders before initiating potentially serious anticoagulant treatment in elderly and often fragile subjects.[1,4,7,13–16]

Conclusion

As rare as it is, this unusual clinical presentation of the popliteal cyst needs to be well known by health professionals, particularly in elderly subjects and those followed for rheumatoid arthritis. The therapeutic implications are completely different and sometimes serious in these patients. Doppler ultrasound remains the examination of choice for the definitive diagnosis of this entity.

Acknowledgements

None.

Conflicts of interest

The authors declare that there are no conflicts of interest.

References

1. Bouomrani S, Baïli H, Beji M. A rare cause of acute heavy leg. *Research fr*. 2015;2:1409.
2. Chalmeta Verdejo C, Alegre Sancho JJ, Román Ivorra JA, et al. Popliteal aneurysm simulating a Baker's cyst in a patient with rheumatoid arthritis: a case presentation. *Reumatol Clin*. 2011;7(2):137–138.
3. Andonopoulos AP, Yarmenitis S, Sfountouris H, et al. Baker's cyst in rheumatoid arthritis: an ultrasonographic study with a high resolution technique. *Clin Exp Rheumatol*. 1995;13(5):633–636.
4. Bakewell C, Dugowson C. Images in clinical medicine. Baker's cyst in a patient with rheumatoid arthritis. *N Engl J Med*. 2009;361(11):1098.
5. Papadakis M, Manios A, Trompoukis C. Popliteal cyst before William Baker: first report in the Galenic Corpus. *Acta Chir Belg*. 2017;117(2):131–134.
6. Handy JR. Popliteal cysts in adults: a review. *Semin Arthritis Rheum*. 2001;31(2):108–118.
7. Mülkoğlu C, Alpoğuz Yılmaz Z, Nacır B, et al. Pseudothrombophlebitis syndrome in a rheumatoid arthritis patient with swollen calf and persistent itching: a case report. *BMC Musculoskelet Disord*. 2018;19(1):345.
8. Daniels P, Vlazny D, Meverden R, et al. Popliteal cysts are not a risk factor for lower extremity deep vein thrombosis. *J Thromb Thrombolysis*. 2022;54(3):492–499.
9. Billières J, Lascombes P, Peter R. Popliteal cysts: etiologic and therapeutic approach. *Rev Med Suisse*. 2014;10(432):1211–1215.
10. Ie K, Ishizuka K, Otsuki T, et al. Ruptured baker's cyst presenting with a palpable popliteal mass and crescent sign. *BMJ Case Rep*. 2023;16(10):e257869.
11. Kano Y, Harada Y. Popliteal ecchymosis in ruptured baker's cyst. *Am J Med*. 2021;134(4):e277.
12. Sanchez JE, Conkling N, Labropoulos N. Compression syndromes of the popliteal neurovascular bundle due to baker cyst. *J Vasc Surg*. 2011;54(6):1821–1829.
13. Kuntz S, Lejay A, Rouby AF, et al. A popliteal cyst responsible for acute lower limb ischemia. *Ann Vasc Surg*. 2019;60:479.e11–479.e15.
14. Bansal K, Gupta A. Ruptured baker's cyst: a diagnostic dilemma. *Cureus*. 2021;13(10):e18501.
15. Nakamura J, Nagashima T, Akiyama Y, et al. Ruptured baker's cyst in rheumatoid arthritis. *Intern Med*. 2019;58(3):455.
16. Tejero S, Delgado BTF, López-Lobato R, et al. Ruptured baker's cyst: complications due to misdiagnosis. *Emergencias*. 2018;30(6):412–414.