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Case report

Lipoma arborescens of the knee in a patient with ankylosing spondylitis: case report and literature review[☆]



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ABSTRACT

Lipoma arborescens (LA) is defined as a villous lipomatous proliferation of the synovial membrane with diffuse substitution of the synovial tissue by mature fat cells. The injury is very rare, involving the knee joint (suprapatellar region) and is associated with degenerative joint disease. We describe the case of a male patient, suffering from ankylosing spondylitis with monoarthritis of the right knee and swelling in suprapatellar region important. The diagnosis of lipoma arborescens was confirmed from the MRI of the right knee.

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Lipoma arborescens de joelho em paciente com espondilite anquilosante: relato de caso e revisão da literatura

RESUMO

Lipoma arborescens (LA) é definido como uma proliferação vilosa lipomatosa da membrana sinovial com substituição difusa do tecido sinovial por células gordurosas maduras. A lesão é muito rara, envolve a articulação do joelho (região suprapatelar) e se associa a doenças articulares degenerativas. Descrevemos o caso de um paciente de sexo masculino, portador de espondilite anquilosante com quadro de monoartrite de joelho direito e aumento de volume importante na região suprapatelar. O diagnóstico de lipoma arborescens foi confirmado a partir da ressonância magnética do joelho direito.

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Palavras-chave:

Lipoma arborescens

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Introduction

Lipoma arborescens (LA) is defined as a villous lipomatous proliferation of the synovial membrane with a diffuse substitution of synovial tissue by mature fatty cells.¹ The lesion is very rare and more often found in males, involving the knee joint (suprapatellar region) as a monoarticular, slowly-developing, and barely painless condition. It has been described in other joints, such as the hip, shoulder, wrist, ankle, and elbow.²

The condition etiology is unclear. It is associated with degenerative joint diseases, but whether the joint degeneration is cause or consequence of the pathological synovial hyperplasia is not known.³

Patients present a progressive and longstanding effusion in the involved joint, with pain and reduced range of movement being potential findings. Examination of the knee reveals a boggy, supra-patellar swelling. Osteoarthritis (OA), diabetes mellitus (DM) and a history of local trauma can coexist.⁴

Laboratory test results, including ESR, rheumatoid factor, and uric acid, are invariably normal. Synovial fluid obtained by arthrocentesis devoid crystals.⁵

Plain radiographs can show suprapatellar soft tissue swelling and are helpful to rule out other causes of pain and swelling. The lesion on MRI is characteristic: appearance of an intra-articular synovial mass with a high signal intensity frond-like synovial proliferation.⁶

It is histologically characterized by a proliferation of the synovial villous lipomatous layer and subsynovial fat hyperplasia.⁷ LA diagnosis used to be histological most of the time, but MRI is currently enough to establish the diagnosis.⁸

LA should be considered in the differential diagnosis of conditions with knee pain.⁹

Case report

A male white patient aged 55, born in Rio de Janeiro, diagnosed with ankylosing spondylitis since 2002, developed a monoarthritis of the right knee. The arthritis started about one year earlier, but he thought that was a typical component of his disease and therefore no help was sought.

On physical examination, the patient had an important swelling not only in the right knee, but also in the soft tissue of the suprapatellar region, with normal joint motion range. Laboratory data demonstrated a worsening in inflammatory activity tests not correlated with his inflammatory condition that was in remission according to the history taken, physical examination, as well as imaging studies.

Synovial fluid analysis for crystals, bacteria, fungi, and mycobacteria, in addition to cultures to rule out other differential diagnoses of knee monoarthritis, was negative. Imaging study by magnetic resonance imaging (MRI) of the right knee showed a lesion suggestive of lipoma arborescens (Fig. 1).

Delay in diagnosis caused an enlargement of the mass, with synovectomy being indicated, a decision made in conjunction with the department of orthopedics.

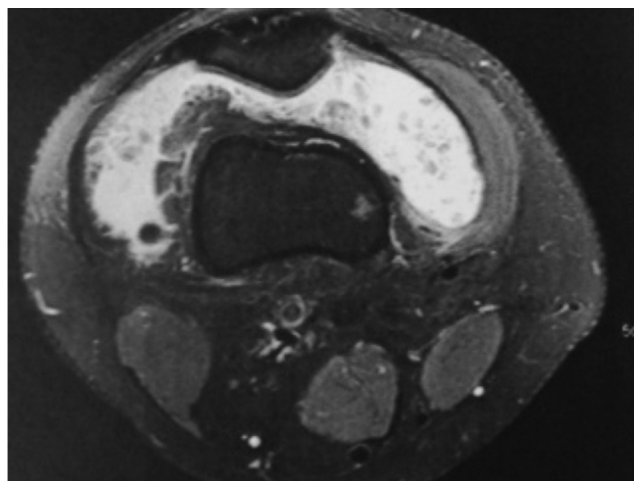


Fig. 1 – Axial magnetic resonance of the right knee shows the arborescent lesion.

Discussion

Lipoma arborescens is a rare benign intra-articular lesion of unknown etiology in which a diffuse substitution of synovial tissue by mature fatty cells is associated with degenerative conditions, such as osteoarthritis or joint trauma, diabetes mellitus, and, in 20% of cases, popliteal cysts.¹⁰

Patients with lipoma arborescens usually have longstanding symptoms, such as progressive swelling, joint effusion, pain, and reduced range of movement.

The differential diagnosis of suprapatellar swelling includes pigmented villonodular synovitis, xanthoma, chondromatosis, rheumatoid arthritis, synovial hemangioma, amyloid arthropathy, lipoma arborescens. Computed tomography (CT) or MRI are helpful in differentiating it from other conditions.¹¹

Treatment is performed by intra-articular injections of radioactive compounds, such as Yttrium 90 or steroids, which alleviate symptoms for short to moderate periods of time. Surgical management is usually recommended by an open or arthroscopic approach and includes a total synovectomy.¹²

Ankylosing spondylitis is a chronic, progressive, and inflammatory disease primarily involving sacroiliac joints and the axial skeleton (spine), with peripheral joints being less frequently affected. Its onset usually ranges from the second to third decades, predominating in Caucasian HLA-B27-positive males.¹³

Of note in the case reported is the concomitant occurrence of lipoma arborescens and ankylosing spondylitis. To date, the rare association of these conditions has never been described in the literature.

Conflicts of interest

The authors state no conflicts of interest.

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