Lipoma Arborescens: a rare cause of recurrent synovial hydrathrosis at paediatric age

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A 14 year-old female patient with a history of autoimmune haemolytic anemia diagnosed at the age of 3, refractory to the corticosteroids and immunosuppressive treatment, requiring splenectomy, was referred to the Paediatric Rheumatology Department with a swollen and painful left knee. The radiographic study was normal but the ultrasound was suggestive of synovial effusion with proliferation of the synovial membrane in the suprapatellar recess. The arthrocentesis showed a non-inflammatory fluid. The patient underwent a joint injection with triamcinolone hexacetonide. Due to frequent recurrences, despite the local gestures, Magnetic Resonance Magina (MRI) was requested (Figure 1 and 2), which revealed fat proliferation of the synovial membrane, suggestive of lipoma arborescens. She was submitted to arthroscopic synovectomy with complete resolution of the clinical picture. The anatomopathological examination revealed a fibroadipose synovial membrane with sparse and nonspecific chronic inflammatory lesions.

Lipoma arborescens is an intra-articular benign and rare condition of unknown aetiology, characterized by the diffuse substitution of the synovial tissue by mature adipocytes, resulting in a villous lipomatous proliferation[1].

Although more common in the knee[2], it may appear in other joints or even bursae[3] or tendon sheaths[4]. It's more frequent in males, between the fifth and sixth decades, and usually occurs as a painless swelling with intermittent exacerbations[1].

It's usually ascribed to a reactive process associated with chronic inflammation, though there are cases that occur without any known aetiological factors, suggesting the possibility of a primary form of the disease[2].

It is a rare and probably underdiagnosed pathology that must be considered in the differential diagnostic of any arthritis, mainly of knee monoarthritis. In particular, this clinical case warns to the fact that not always the articular affection in the paediatric patient with an immune mediated disease is of autoimmune aetiology. The refractoriness to local gestures, usually effective in these pictures, forces a more thorough evaluation.

In the differential diagnosis of monoarthritis all the pathologies resulting in joint effusion and synovial

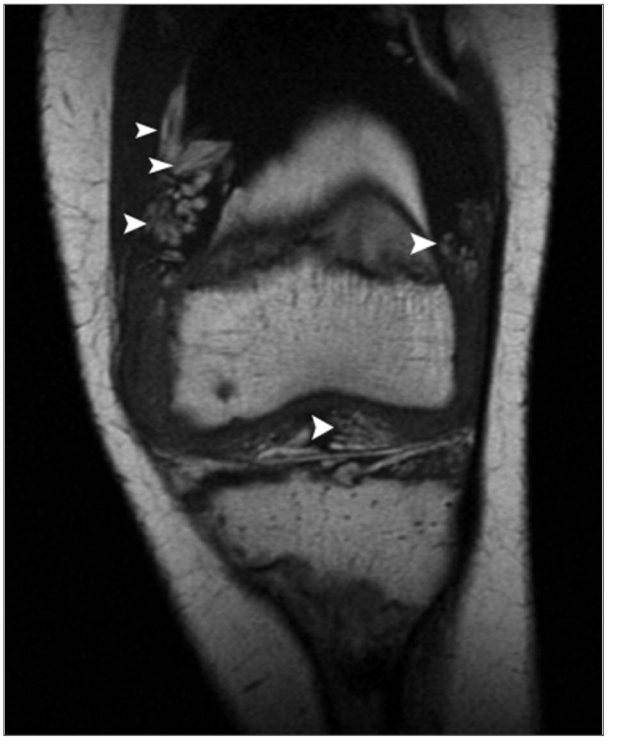

FIGURE 1. MRI showing a proliferation (arrow heads) suggestive of lipoma arborescens

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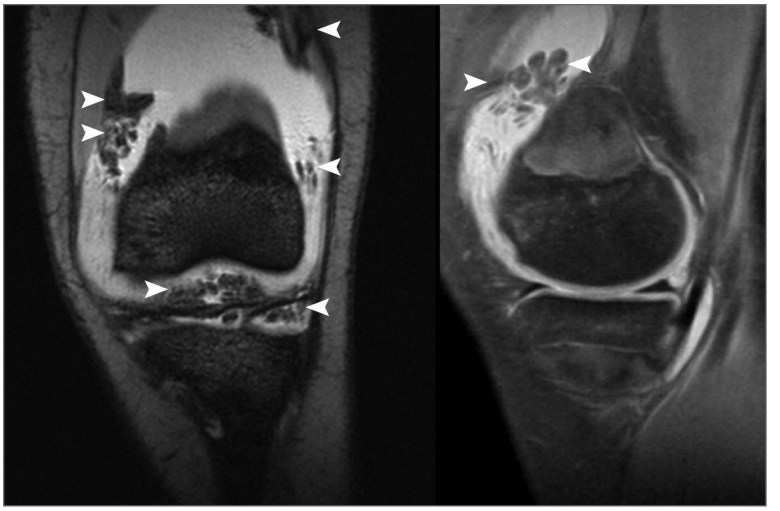

FIGURE 2. Coronal (left) and sagital (right) T2-weighted MRI view, with fat signal saturation, showing a signal suppression in the proliferative mass (arrow heads)

thickening, without systemic involvement, must be included, namely: pigmented villonodular synovitis, synovial hemangioma, synovial osteocondromatosis and synovial lipoma[5].

The MRI is, usually, enough to diagnose this entity, being the remaining imaging studies nonspecific[1]. The anatomopathologic aspect is of a frond-like fatty mass with a villous pattern, and a moderate number of mononuclear inflammatory cells may be present[5].

The surgical synovectomy is almost always curative[1,5].

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