



Corticosteroid Crystals Mimicking Septic Arthritis

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Clinical Image

A 50 years-old woman with bilateral hip osteoarthritis was treated with an ultrasound-guided intra-articular injection of 40 mg of triamcinolone acetonide, in her right hip because of exacerbation of pain and functional impairment.

The next day, she presented with worsening of the clinical features, and mild grade fever. Ultrasonography showed a swollen inflamed joint. In the clinical suspicion of septic arthritis, an ultrasound-guided joint aspiration was performed, yielding 4 ml of a thick, turbid, yellowish synovial fluid ((Figure 1), left panel). Leukocyte count was 30,000 cells/mm³ with 87% of neutrophils. Gram and acridine orange staining's were negative and no growth in cultures was observed. Wet preparations of the specimen with polarizing compensated microscopy showed several pleomorphic intra- and extra-cellular bright crystals, compatible with deposition of corticosteroid crystals. They have strong birefringence with positive or negative elongation ((Figure 1), right panel). The conclusive diagnosis was triamcinolone acetonide crystal-induced arthritis. This arthritis is a possible side effect of intra-articular injection with synthetic depot corticosteroid preparation; it can mimic septic arthritis; however, it is usually self-limiting, within 24 h to 48 h [1,2]. In our case the patient completely recovered after 72 h from injection.

References

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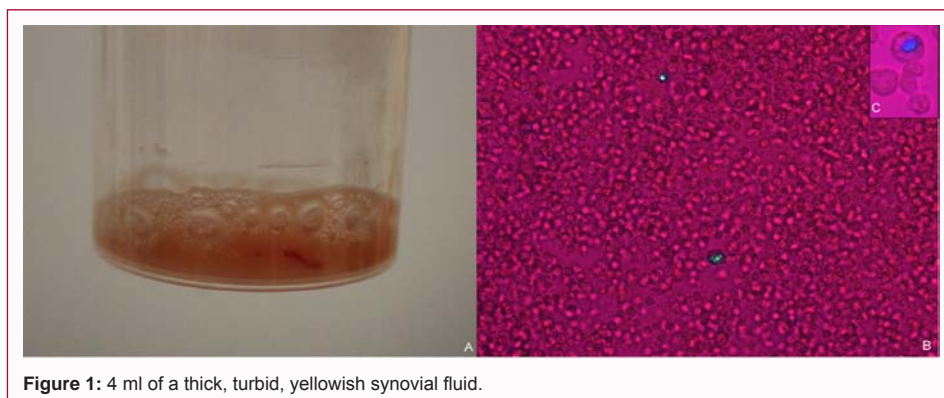


Figure 1: 4 ml of a thick, turbid, yellowish synovial fluid.