



ATYPICAL PRESENTATION OF SEPTIC ARTHRITIS OF THE HIP MIMICKING FRACTURE IN AN IMMUNOCOMPROMISED PATIENT

Dr Mervin Rosario

Senior Resident ,Department of Orthopaedics, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu.

Dr Rathina Easwar

*

Junior Resident, Department of Orthopaedics, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu. *Corresponding Author

ABSTRACT A case report of a 39 year old female who is a known case of SLE on long term steroid therapy with silent septic arthritis of the right hip that mimicked fracture of the femoral head and neck. She presented to us with right sided hip pain of acute onset with inability to weight bear and walk for 2 days. There was no history of recent fever episodes, chills or rigor. No history of any recent trauma. No history of loss of weight or appetite. On examination the attitude of right hip joint was in flexion, diffuse tenderness was noted and all attempted hip movements were painful. There was no warmth or redness. Her inflammatory parameters were found to be raised. X-ray of the right hip joint was unremarkable. On further radiological investigation using MRI scan she was diagnosed to have right undisplaced femoral head and neck fracture with surrounding moderate joint effusion. Keeping her previous diagnosis of SLE and long term steroid therapy in mind we came to the differential diagnosis of avascular necrosis, possibility of silent septic arthritis and pathological fracture. The patient was planned for aspiration of hip joint and stabilization of the fracture if the joint was found to be sterile. Intra-operatively frank pus was aspirated from the hip joint following which the patient underwent right hip arthrotomy. No fracture was noted. The femoral head and neck were found to be intact. Thorough debridement of the right hip joint was done. She was started on empirical intra-venous antibiotics. Joint aspirate revealed Klebsiella Oxytoca growth based on the culture report appropriate antibiotics were started. Patient had full functional recovery post-operatively.

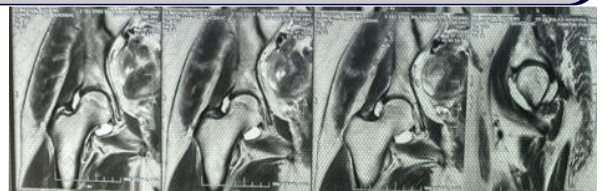
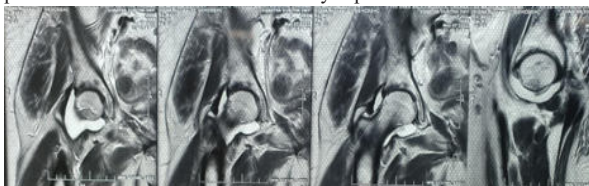
KEYWORDS : silent septic arthritis, arthrotomy, pathological fracture, SLE, immunocompromised

INTRODUCTION:

SLE is an autoimmune condition often associated with musculo-skeletal pathology. 70 - 95% of the patient frequently present with inflammatory arthritis as a component of lupus flare. Hip joint is most commonly involved. Septic arthritis in SLE usually presents as acute or sub-acute large joint swelling associated with pain and inability to use the joint with raised inflammatory markers¹. Classic symptoms and signs of septic arthritis may be absent and sometimes it may mimic an acute flare of the underlying inflammatory condition. Major risk factors for development of septic arthritis in these patients include long term steroid use and immunosuppressive therapy².

CASE REPORT:

A 39 year old female presented to us with complaints of acute right side hip pain and inability to walk for 2 days. She was diagnosed with SLE one year back. She tested positive for ANA and had raised inflammatory markers. After being diagnosed she was started on corticosteroid therapy and DRMDs by her Rheumatologist. One year after her diagnosis she developed right side hip pain which was acute in onset, continuous in nature with no relieving factors. The onset of the pain was not associated with any recent trauma or any recent febrile episode. On clinical examination the right hip appeared to be in flexion. No warmth was noted, diffuse tenderness was present around the hip joint. All attempted movements of the hip were painful. Plain x-ray of the right hip joint was unremarkable. Inflammatory markers were elevated. ESR was 94 and CRP was 2.4. Her total cell count was within normal range. MRI hip was taken to rule out avascular necrosis. MRI showed no evidence of AVN, although an undisplaced fracture in the right femoral head and neck was reported with associated joint effusion and edematous changes in the surrounding muscle. Patient was planned for right hip joint synovial fluid aspiration followed by stabilisation of the fracture. Hip joint aspirate consisted of frank pus based on which clinically septic arthritis was diagnosed and patient underwent right hip arthrotomy. The aspirate on extended culture showed Klebsiella Oxytoca growth and patient was started on antibiotics based on the same. She was given intravenous antibiotics for two weeks followed by oral antibiotics. After finishing the antibiotic course, repeat aspiration of the hip joint was done and the synovial fluid was found to be sterile. Following rehabilitation the patient showed full functional recovery to pre infective state.

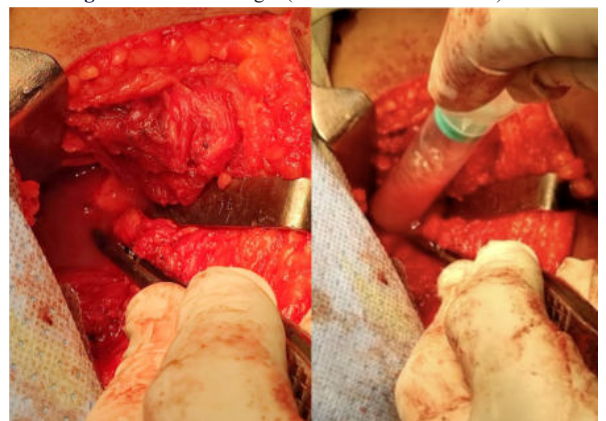


Table/Fig: 1 MRI Right Hip (Coronal View Showing Moderate Fluid Collection)



Table/Fig: 2 MRI Right Hip (Axial View Showing Hyperintense Signal Change In The Surrounding Structures)

Table/Fig: 3 INTRA-OP Images (Pus Present In The Joint)



Table/Fig: 4 Post-OP X-Ray**DISCUSSION:**

Typical septic arthritis presents as inflammation of monoarticular joints which are usually associated with warmth, severe pain and restriction of movement at the joint³. However older adults and immunocompromised individual can present with atypical symptoms & can often be afebrile or asymptomatic. Diagnosis of septic arthritis is commonly based on clinical suspicion which is further confirmed by diagnostic tap that show purulent aspirate with elevated cell counts and protein⁴. The organism can further be isolated from the fluid on culture. Patients with pre-existing inflammatory condition like Rheumatoid arthritis and SLE, are more prone to septic arthritis. These patients have reduced phagocytic function that may pre-dispose them to septic arthritis. DMARDs and steroids used for the treatment of their inflammatory condition can further lead to immunosuppression⁵. Septic arthritis in these patient is to be suspected when they have a flare of joint inflammation be it mono or poly-articular with elevated inflammatory marker⁶.

Huang JL. et.al in their retrospective study of septic arthritis in 29 patients with SLE concluded that hip joint was the common joint involved followed by knee joint. Salmonella was the most common organisms involved followed by Staphylococcus Aureus, but in our study the organisms isolated was Klebsiella Oxytoca. In the absence of a positive micro-organism on culture synovial fluid analysis plays a pivotal role in diagnosing septic arthritis⁸.

Synovial fluid in these cases are usually turbid and opaque with increased cell count, predominantly consisting of neutrophils. Glucose level in these samples are usually less than that of the plasma. Protein levels in the sample are usually elevated⁹.

In our study of this atypical presentation of septic arthritis mimicking as a fracture in an immunocompromised individual with SLE the diagnosis was difficult to ascertain preoperatively⁹. Through knowledge of the possible differential diagnosis and appropriate interpretation of the clinical signs and investigation we were able to do a timely diagnosis of this silent septic arthritis, thereby preventing joint destruction and its associated complication¹⁰. The patient was able to achieve full functional recovery and is now symptomatically better.

CONCLUSION:

The possibility of silent septic arthritis should always be considered in all patient with pre-existing autoimmune conditions like SLE and Rheumatoid arthritis. These patients may present with painful swollen joints and severely restricted movements with no signs of sepsis and a normal total count and may appear afebrile¹¹. These cases can be easily misdiagnosed as an acute flare of the underlying condition and any delay in treatment could lead to significant damage to the joint and an increase in the overall morbidity and mortality. Septic arthritis when diagnosed and managed early can lead to full functional recovery of the patient¹².

Acknowledgement:

Authors expresses gratitude to Sree Balaji Medical College and Hospital management for their assistance during the research.

Consent:

The authors have gathered informed consent from the patient as per international standard or university standard guidelines.

Conflict Of Interests:

None

REFERENCES:

1. Septic arthritis in patients with systemic lupus erythematosus : salmonella and non-salmonella infections compared ; jing-long huang et al. semin arthritis rheum. 2006 aug.
2. Chronic large joint synovitis in systemic lupus erythematosus: finding what you look for B Hodgkinson, I Okpechi and S A Botha-scheepers.
3. Active septic arthritis of the hip in adults: what's new in the treatment? A systematic review – Fabio D' Angelo, Luca Monestier, and Luigi Zagra.
4. Management of septic arthritis of the hip joint in adults. A systematic review of the literature- Giovanni Balato, Vincenzo de matteo, and Massimo Mariconda.
5. Evaluation and Management of septic arthritis and its mimics in the emergency department- Brit Long, MD, Alex Koyfman, MD, and Michael Gottlieb, MD.
6. Silent septic arthritis : A case report: e13579. Doi:10.7759/cureus.13579.
7. Polyarticular septic arthritis caused by staphylococcus lugdunensis in a patient with SLE- Anita Laloo, Vasileios C. Kytaris.
8. Septic arthritis of hip joint and its devastating complications- Kamal Kant Sahu, Nicholas Tsitsilianos, Luke Moselle and Ajay kumar mishra.
9. Begly JP, Sobieraj M, Liporace FA, Dayan A. staphylococcus lugdunensis septic arthritis of a native knee A case report. 2016; 74: 314-7.
10. Grossman JM (2009) Lupus arthritis. Best Pract Clin Rheumatoid 23: 495-506.
11. Hodgkinson B, Musenge E, Tikley M (2009) Osteoarticular tuberculosis in patient with SLE. QJM 102: 321-328.
12. Salmonella-Related Septic arthritis in an Immunocompetent Adult: A case report- Gharib MH, et al. Cureus.2022.