Reactive Arthritis with Intra-articular Inclusion Body Neutrophilia.

Thomas Quinn DO
Lehigh Valley Health Network, Thomas.Quinn@lvhn.org

Samer Bolis DO
Lehigh Valley Health Network, Samer.Bolis@lvhn.org

Rajesh Essrani MD
Lehigh Valley Health Network, Rajesh.Essrani@lvhn.org

Aylin Colpan MD
Lehigh Valley Health Network, Aylin.Colpan@lvhn.org

Susan Kim MD
Lehigh Valley Health Network, Susan.Kim@lvhn.org

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Reactive Arthritis with Intra-articular Inclusion Body Neutrophilia

TA Quinn, DO, S Bolis, DO, R Essrani, MD, A Colpan, MD, SS Kim, MD

Lehigh Valley Health Network, Allentown, Pennsylvania

INTRODUCTION

- Reactive arthritis is associated with specific typical inciting organisms, without evidence of viable intra-articular microbes on work-up.
- We present a case of reactive arthritis with a unique intra-articular synovial smear involving an atypical organism masquerading as potential septic arthritis in a chronically immunosuppressed patient.

CASE PRESENTATION

- A 67-year-old male with a history of seropositive rheumatoid arthritis on chronic corticosteroids presented with five days of fever, generalized weakness, fatigue, diffuse myalgias, and worsened arthritis in his wrists, hands, ankles and particularly his right knee.
- Symptoms were initially attributed to a rheumatoid arthritis flare by his outpatient rheumatologist, prompting uptitration of prednisone without clinical improvement.
- Patient reportedly had been walking through forested areas, but denied bites or rashes.
- Exam was significant for his ill-appearance, with initial concerning vital signs of hypotension and tachycardia
- His joint exam exhibited active synovitis involving bilateral wrists, proximal interphalangeal, and ankle joints along with exquisite right knee tenderness with marked restriction of range of motion, with associated warmth and minimal effusion

WORK-UP

- Labs revealed transaminitis, thrombocytopenia, and acute kidney injury.
- Peripheral blood smear showed granulocytic intracellular inclusion bodies concerning for presumptive Anaplasma leading to initiation of oral doxycycline.
- Nevertheless, initial serologies were negative for Erlichia, Anaplasma, Lyme, Babesia, and Bartonell
- Diagnostic arthrocentesis of the right knee was performed due to pain out of proportion to other joints. Synovial fluid profile revealed an inflammatory profile with 40,000 white blood cells, 18,000 red blood cells, negative crystals, negative cultures, and notably with synovial smear similarly revealing granulocytic intracellular inclusions.
- No surgical wash-out was performed as the arthritis was deemed to be inflammatory rather than septic.

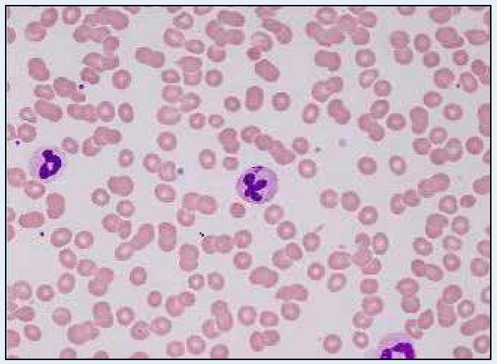

Figure 1: Peripheral blood smear showing characteristic intracytoplasmic inclusions of human granulocytic anaplasmosis.

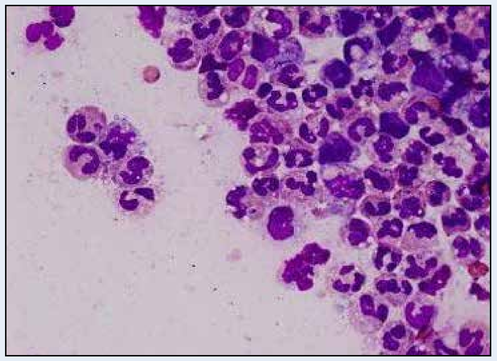

Figure 2: Synovial Fluid Smear.

RESULTS

- The patient was discharged on a corticosteroid taper and 10 day course of doxycycline.
- Outpatient follow-up within the next two weeks revealed clinical improvement of his joints with resolution of right knee swelling, along with normalization of thrombocytopenia, transaminitis, and kidney function.
- Of note, repeat Anaplasma phagocytophilium IgG titer was positive at 1:160.

CONCLUSIONS

- Our case demonstrates the matched appearance of inclusion bodies in both synovial fluid smear and peripheral blood smear. This unique intra-articular finding was likely precipitated by translocation of infected granulocytes into the joint from systemic anaplasmosis, rather than true septic joint.
- Additionally, our case highlights Anaplasma as an atypical and causative organism for reactive arthritis in an immunocompromised host.