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Case Report Open Access

Bilateral Simultaneous *Streptococcus pneumoniae* Knee Septic Arthritis in a Patient with Previous Splenectomy

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Abstract

A 60-year-old male, with past medical history significant for traumatic total splenectomy in 1970, osteoarthritis, presented with symptoms of fever, chills, fatigue, and bilateral knee pain and swelling of several days duration. Physical examination was significant for bilateral knee effusion, redness, warmth, and decreased range of motion of knees bilaterally.

Initial laboratory results showed leukocytosis with neutrophilia. Bilateral joint aspiration of the knees yielded a positive joint fluid for *Streptococcus pneumoniae*. He was placed on IV vancomycin and immunoglobulins. The patient underwent arthroscopic and mini-open arthrotomy along with irrigation and debridement.

Keywords: Septic arthritis; Splenectomy; Leukocytosis; Pneumococcal arthritis

Introduction

Pneumococcal septic arthritis is a rare clinical entity and is often associated with a systemic bacteremia. We present a rare case of documented bilateral simultaneous pneumococcal septic arthritis in a patient with splenectomy.

Case Presentation

A 60-year-old male, with past medical history significant for traumatic total splenectomy in 1970, osteoarthritis, and gastro-esophageal reflux disease, presented with symptoms of fever, chills, fatigue, and bilateral knee pain and swelling of several days duration. Home medications included omeprazole, and oxycodone as needed for pain. His vaccination history was not up-to-date.

Vital signs showed hypotension, tachycardia, normal respiratory rate, and no objective fever. Physical examination was significant for bilateral knee effusion, redness, warmth, and decreased range of motion of knees bilaterally. Initial laboratory results showed leukocytosis of 22.5 103/l with left shift of 87% neutrophils, erythrocyte sedimentation rate (ESR) 70 mm/h, and C-and reactive protein (CRP) 93.7 mg/L. Bilateral joint aspiration of the knees yielded purulent fluid with no crystals, white cell count of 38x103 with 95% neutrophils, red cell count of 8.5x103, and positive joint fluid and blood cultures for *Streptococcus pneumoniae*.

Echocardiogram was negative for vegetation. He was placed on IV vancomycin and immunoglobulins. The patient underwent arthroscopic and mini-open arthrotomy along with irrigation and debridement the patient continued to complain of bilateral knee pain despite being on vancomycin, so he underwent open debridement and irrigation followed by bilateral knee synovectomy.

The patient underwent 8 separate bilateral knee drainages and washouts until the drainage showed healthy granulation tissue without purulence. He continued with IV vancomycin for total of 6 weeks and received pneumococcal vaccine.

Discussion and Conclusion

This is the third reported case of bilateral septic pneumococcus arthritis in an "immunocompetent" patient with no source of infection, in the literature. Brzeski et al. [1] described the first case of simultaneous bilateral pneumococcal arthritis in a patient with Felty's syndrome who had undergone splenectomy. Whitehead-Clarke et al. [2] described the second case of simultaneous pneumococcal bilateral septic arthritis in an immunocompetent patient without any source of infection.

Herein, we present the third case in a patient with history of traumatic total splenectomy 46 years prior to presentation with no history of pneumococcal vaccination. Our aim is to exemplify the importance of careful assessment of patients who present with bilateral swollen joints especially with history of splenectomy and to emphasize the importance of keeping such patient up-to-date immunization schedule.

In patients with septic arthritis early identification of immune status and splenectomy status will assist in better-targeted therapy with immunoglobulins and vaccines to supplement appropriate antibiotics.

References

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