Case Report

BILATERAL KNEE SEPTIC ARTHRITIS IN A MIDDLE-AGED WOMAN: A CASE REPORT.

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Abstract

Background: Septic arthritis is an inflammatory condition involving the joint, diagnosed by isolation of pathogens from synovial fluid and usually associated with subsequent complication. Acute septic arthritis is an orthopaedic emergency and bilateral involvement is rare in immunocompetent individuals.

Case presentation: A 55-year-old female presented with history of pain and swelling of both knees and fever of 3 weeks' duration. There were scarification marks on the swollen and tender knees as she had sought traditional care before presentation to us. Osteoarthritis of the knee was identified as a risk factor for septic arthritis in the patient. She had bilateral open knee arthrotomy, antibiotics and physiotherapy.

Conclusion: Bilateral knee septic arthritis is a rare condition in immunocompetent patient. Osteoarthritis is a risk factor. Prompt diagnosis, surgical intervention and medical treatment with suitable antibiotics are important in reducing morbidity and high rate of mortality that can result from the condition.

Keywords: Septic arthritis, Inflammatory, Bilateral.

Cite this article: Kolade OA, Omoseebi AA. Bilateral knee septic arthritis in a middle-aged woman: A case report. Yen Med J. 2020;2(2):84 – 86.

INTRODUCTION

An acutely painful and swollen joint is a common medical presentation with a broad differential diagnosis for consideration, and septic arthritis although less common must be given early consideration.[1] Acute septic arthritis is an orthopaedic emergency. Septic arthritis is an inflammatory condition involving the joints diagnosed by isolation of pathogens from synovial fluid with subsequent complications.[2] It has an incidence of 7.8/100000 persons per year in the US.[3] The condition is usually mono-articular rather than poly-articular and mostly mono-microbial.[4,5] The most commonly involved joint is the knee in about 50% of cases in adults, followed by the hip; also commoner in the hip in children.[6] Polyarticular septic arthritis is relatively uncommon and accounts for an estimated 15% of all septic arthritis cases reported.[1] However, the mortality rate in polyarticular septic arthritis is as high as 50% making early recognition and intervention very important.[1]

This case highlights a clinical presentation of bilateral knee septic arthritis with osteoarthritis as a risk factor and that prompt and appropriate treatment reduces morbidity and mortality.

CASE PRESENTATION

A 55-year-old female office assistant presented to our facility on account of bilateral knee pain and fever of 3 weeks. Knee pain was sudden, dull and aching, localized to the knee joint, initially started with the right and then the left after 3 days. There was associated swelling of both knees and inability to bear weight on the lower limbs. No preceding history of trauma and no wound on the knees. There was history of high-grade fever with associated chills and rigors.

She had presented 2 weeks earlier to a general practitioner who prescribed analgesics and antibiotics and she had scarification marks made on both knees at home when knee swelling persisted. She had a history of chronic right knee pain. No medical co-morbid condition. No history of surgical procedure.

Examination revealed an acutely ill-looking woman, conscious, not pale, febrile (38.2 ˚C) and no pedal oedema. Pulse rate was 86 beats/minute, she was

normotensive and the first and second heart sounds only were heard. Chest was clear clinically. The knees were flexed to 30 degrees, bilateral knee swelling was noted, with multiple scarification marks on the knees and legs and the knees were tender with differential warmth. There was limitation of range of motion at both knee joints. Arthrocentesis of the knee yielded free flowing pus bilaterally. An assessment of bilateral knees septic arthritis was made.

Investigations done include a full blood count (packed cell volume was 34%, leucocyte count was 13300 cells/µl with neutrophilia of 64%) and a fasting blood sugar (4.7mmol/L). Others including HIV, hepatitis B and C viral screenings were negative and electrolytes, urea and creatinine were within normal limit. Aspirates from the knees were turbid. Aspirate microscopy, culture and sensitivity yielded no growth.

She was commenced on intravenous Ceftriaxone and Sulbactam 1.5 g daily. She had bilateral knee open arthrotomy and joint irrigation done on third day on admission. She had a week course of intravenous antibiotics then 5 weeks of oral cefixime. She had physiotherapy postoperative and was able to walk on fifth day postoperative.

DISCUSSION.

Septic arthritis is characterized by fever, joint pain and swelling and difficulty in moving the affected joint. Polyarticular involvement in septic arthritis is uncommon.[1] Septic arthritis can occur in any age group with individuals at the extremes of age being more susceptible.[1] Our patient had bilateral knee septic arthritis at age 55 years.

Diagnosis is clinical and is confirmed by a positive arthrocentesis that yields either pus or a synovial fluid with white cell count of greater than 50,000 cells/µl and over 75% neutrophils.[7] Rheumatoid arthritis, osteoarthritis, systemic lupus erythematosus and trauma are known predisposing factors.[1] Other risk factors are immunosuppressive states (diabetes mellitus, malignancy, liver or kidney diseases), skin infection, endocarditis and intravenous drug abuse.[1] In this case, our patient had osteoarthritis in the right knee, she was however immunocompetent and arthrocentesis of the knees yielded pus bilaterally.

The causative organism can be identified from the blood and/ or synovial fluid culture.[1] The yield from synovial fluid culture is up to 76%.[8] The causative organism in most cases is Staphylococcus aureus.[3,4] Other isolates are Streptococcus spp, Pneumococcus, Gonococcus, E.coli and Influenza in children.[7] About 10% of all cultures from joint aspirates are polymicrobial and another 10% of cultures are negative.[9] The aspirate culture was negative in our patient which may be due to prior ineffective use of antibiotics given by the general practitioner.

The methods of joint arthrotomy are arthroscopic and open.[10] Arthroscopic method was found to allow earlier knee range of motion exercise, weight bearing and less repeat surgical irrigation in a study by John B et al.[10] Arthroscopic method also has cosmetic advantage over open method. Our patient had open arthrotomy and washout of the joint, antibiotics and physiotherapy. Open arthrotomy was done because arthroscopy is not available in our centre. She made significant improvement and was able to ambulate by 5 days post-operative.

Late presentation of patients to the orthopaedic surgeon due to poor health seeking behaviour is peculiar with our environment. Our patient sought alternative care after seeing her general practitioner as knee swelling was not reducing which delayed her presentation to us. Emphasis is on prompt diagnosis, surgical intervention and medical treatment with suitable antibiotics which are important in reducing morbidity and mortality that can result from the condition. These may be hindered by late presentation.

AUTHOR CONTRIBUTION

Author 1 managed the patient, reviewed literatures and wrote the manuscript. Author 2 participated actively in-patient management, summarised the case and participated in literature review. Both authors read the final manuscript.

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