Septic Arthritis Arising From a Diabetic Foot Wound – A Diagnosis That We Should Consider More Often?

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Background: Foot ulcers are a common complication of diabetes most frequently associated with neuropathy and ischaemia. Most ulcers are relatively straightforward, requiring standard treatment with off-loading, antibiotics and revascularisation where necessary. However occasionally, complications may arise that may not immediately come to mind as associated directly to the diabetes related foot disorder.

We describe two patients who were longstanding attendees of our multidisciplinary specialist diabetic foot clinic who presented with acute onset episodes of septic arthritis of the knee.

Case 1

A 77-year-old woman with 12 years of type 2 diabetes, presented with a painful swollen knee. She had an HbA1c of 61mmol/mol. Her foot pulses were palpable but she was insensate. a history of minor amputations due to ulceration & infection

For 4 months prior to presentation she had had a foot ulcer for which she was treated with a total contact cast (Figure 1). The wound had been progressing well & remained uninfected, so no antibiotics had been prescribed for 8 weeks

After 2 months of casting, she complained of pain & swelling in her right knee which, on examination was swollen, hot & red (Figure 2). An urgent x-ray was normal, but her inflammatory markers were raised. She was admitted to hospital where she was reviewed urgently by orthopaedics & the knee aspirated. *Staph* aureus was grown. 4 weeks treatment with intravenous flucloxacillin & oral fucidin. Her knee was washed out 3 times over the next few weeks

She was doing well after 10 months of follow up

Figure 1

Figure 2

Case 2

A 53-year-old male with 30 years of type 1 diabetes. He had rheumatoid arthritis on long term steroids, widespread atherosclerotic disease & COPD. He had previous 1st ray amputations for osteomyelitis. Despite previous lower limb revascularisation, had no palpable foot pulses and his feet were insensate. Two years previously he had grown Meticillin Resistant Staphylococcus Aureus (MRSA) in a deep tissue swab from a foot ulcer. He had a history of multiple foot ulcers and a left hallux amputation

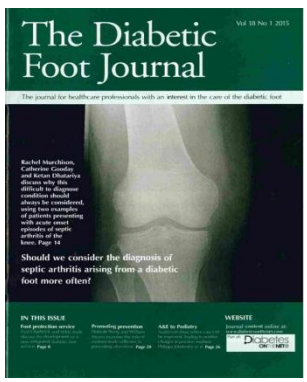
He was admitted feeling generally unwell with multiple foot ulcers (Figures 3, 4 and 5) and acute onset bilateral knee pain. His inflammatory markers were raised. He was reviewed by orthopaedics & rheumatology. His knees were swollen but X-rays were normal. His knees were both aspirated and *Staph* aureus was cultured. He was given 3 weeks of intravenous flucloxacillin & oral fucidin. His knees were washed out and he was discharged on 4 weeks of oral antibiotics

He died suddenly at home 1 year later from coronary artery disease

Figures 3, 4 and 5

Discussion: Septic arthritis is a medical emergency and can lead to high morbidity and mortality. A short history of a hot swollen joint with restricted movement should be regarded as having septic arthritis until proven otherwise and is an orthopaedic emergency with an 11% mortality[1].

The large joints are most commonly affected; usually the hip or the knee, and Gram positive cocci such as *Staphylococcus* sp or *Streptococcus* sp are the most common causative organisms. Risk factors include osteo- or rheumatoid arthritis, prosthetic joints, intravenous drug abuse, alcoholism, diabetes, previous intra-articular corticosteroid injections and cutaneous ulceration. It is important to diagnose septic arthritis early due to the potential poor prognosis and long term joint damage that can occur such as loss of joint function and osteomyelitis.
In summary, there should be a low threshold of suspicion for acute onset knee and joint pain in diabetic foot clinic patients and septic arthritis should always be considered.



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