A hot, swollen joint without trauma: septic arthritis until proven otherwise

Amelia Sophie Oliveira,¹ Faisal Abbasi,² Sarkhell Saadi Radha³

¹University College Hospital, London, UK
²East and North Hertfordshire NHS Trust, Stevenage, UK
³Department of Trauma and Orthopaedics, East and North Hertfordshire NHS Trust, Stevenage, UK

Correspondence to
 Dr Faisal Abbasi,
 faisal.abbasi@nhs.net

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DESCRIPTION

A 71-year-old man with a history of rheumatoid arthritis presented to the accident and emergency department with a hot, swollen and painful right knee. The patient had been seen by his primary care physician several times in the preceding 4 months, and each time oral antibiotics and

non-steroidal anti-inflammatory drugs were prescribed for presumed pre-patella bursitis. There was no history of joint surgery or intra-articular steroid injection and rheumatoid disease was currently well controlled with sulfasalazine.

At presentation, the patient's temperature was 38.4°C, and there was a moderate effusion and

Figure 1 Anteroposterior and lateral right knee X-ray showing tri-compartmental joint space narrowing with erosion of the subchondral surfaces.

Figure 2 Anteroposterior and lateral right knee X-ray 3 months prior to hospital admission.

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5–20° range of movement in the right knee. The knee was hot and tender with no further joint involvement. Blood tests revealed C reactive protein 255 mg/L, white cell count $12.4 \times 10^9/\text{L}$ and a normal uric acid level. Radiographs demonstrated rapidly progressive tri-compartmental joint space narrowing with erosion of the subchondral surfaces (figures 1 and 2).

Suspecting septic arthritis, arthrocentesis of the knee was performed. This revealed frank pus from which *Staphylococcus aureus* was isolated with no crystals seen. Owing to an aspirate appearance and clinical sepsis, urgent arthroscopic washout was performed without synovial fluid cell count. Arthroscopy revealed copious pus in the joint space with widespread

destruction of the articular cartilage. Intravenous flucloxacillin was started for 6 weeks.

A painful and swollen joint is a common presentation to primary and secondary care. The association of rheumatoid arthritis and septic arthritis is well known.¹ Regardless of the underlying inflammatory disease, a hot, swollen joint, especially without associated trauma, should be regarded as septic arthritis until proven otherwise.² Early diagnosis and prompt treatment are key to the prevention of joint destruction.

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Learning points

- Septic arthritis is a medical emergency that, if left untreated, can result in joint destruction, osteomyelitis, sepsis and death.³
- Clinicians should maintain a high level of suspicion for septic arthritis in a patient with a history of rheumatoid arthritis presenting with a hot and swollen joint, especially without associated trauma.²
- Diagnosis and management of such a joint should be undertaken as a matter of urgency.

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