Case study

ISOLATED POST-TRAUMATIC OSTEOMYELITIS OF THE PATELLA IN AN ADULT IN A LOW-INCOME ECONOMY

ABSTRACT

Aim: To highlight a typical pattern of presentation of isolated post-traumatic osteomyelitis of the patella in an adult in a resource-poor region.

Case presentation: We report a case of a 42 year old man who presented with a discharging sinus on the anterior aspect of his left knee of 6 months duration. At presentation, the left knee had a desiccated bone spicule protruding through a sinus on the anterior aspect which was discharging seropurulent material. The patient had wound debridement and V-Y Quadriceplasty as well as extended antibiotic therapy. He made full recovery and was discharged after a follow-up period of 6 months.

Discussion: The rarity of isolated osteomyelitis of the patella may occasionally lead to a delay in its diagnosis. In our index patient, trauma was the cause of infection. Diagnosis was based on a high index of suspicion, clinical features at presentation, as well as radiological and bacteriological examination findings. Our index patient made full recovery following debridement as well as an eight-week postoperative course of antibiotics.

Conclusion: Isolated osteomyelitis of the patella requires a high index of suspicion to diagnose. Surgical debridement of all necrotic and inflammatory tissues as well as long-term antibiotic administration are the mainstay of treatment.

Keywords: post-traumatic osteomyelitis, patella

INTRODUCTION

Isolated osteomyelitis of the patella is a rare pathology[1-3]. It is more commonly seen in children between the ages of 5 and 15 years[1, 2]. In the adult population, it is usually associated with trauma, surgery or an immunodeficiency state[2, 3]. Due to the rarity of the pathology, a high index of suspicion is essential in making a diagnosis[2]. Our index patient is a 42 year old man who presented with left knee swelling and stiffness, with a discharging sinus of about six months after sustaining an open injury to the left knee in a motorcycle accident. We decided to report this case because it is a rare pathology, and to highlight a typical pattern of presentation in a resource-poor region.

CASE REPORT

We report a case of a 42 year old man who presented with a discharging sinus on the anterior aspect of his left knee of 6 months duration. He had sustained an open injury to the left knee following a motorcycle accident. He indulged in self-medication initially, then opted for care in a secondary health facility where he was treated as an outpatient for about 2 months without any improvement. At presentation, the left knee was moderately swollen, and had a desiccated bone spicule protruding through a sinus on the anterior aspect, which was discharging seropurulent material. The discharging sinus was surrounded by an extensive oval-shaped scar tissue with interspersed areas of hyperpigmentation and hypopigmentation, and measuring 8 centimeters and 10 centimeters in its widest dimensions.

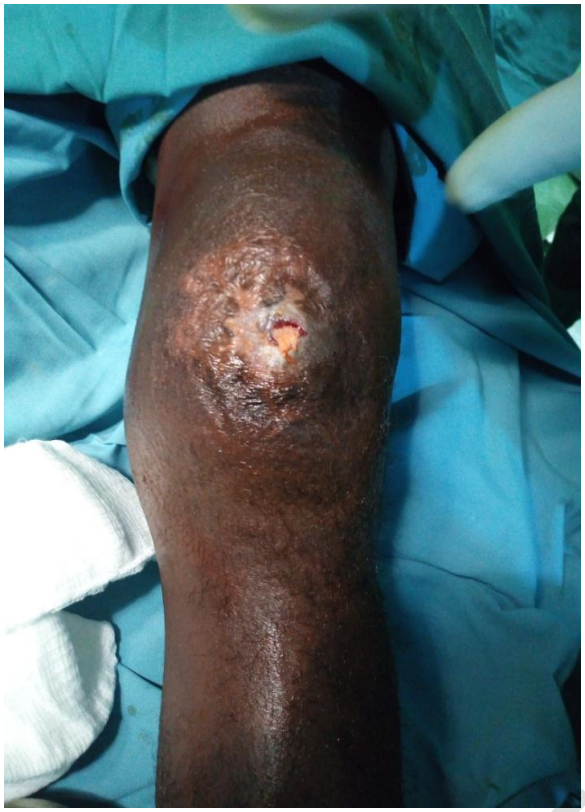

Figure I: Clinical photograph of the left knee showing a protruding desiccated piece of bone.

There was limitation of the left knee range of motion of 0° to 30° of flexion. The plain radiograph of the left knee showed an anteriorly displaced sclerotic fragment of the anterior cortex of the superior pole of the patella. The rest of the anterior cortex of the patella was equally sclerotic.

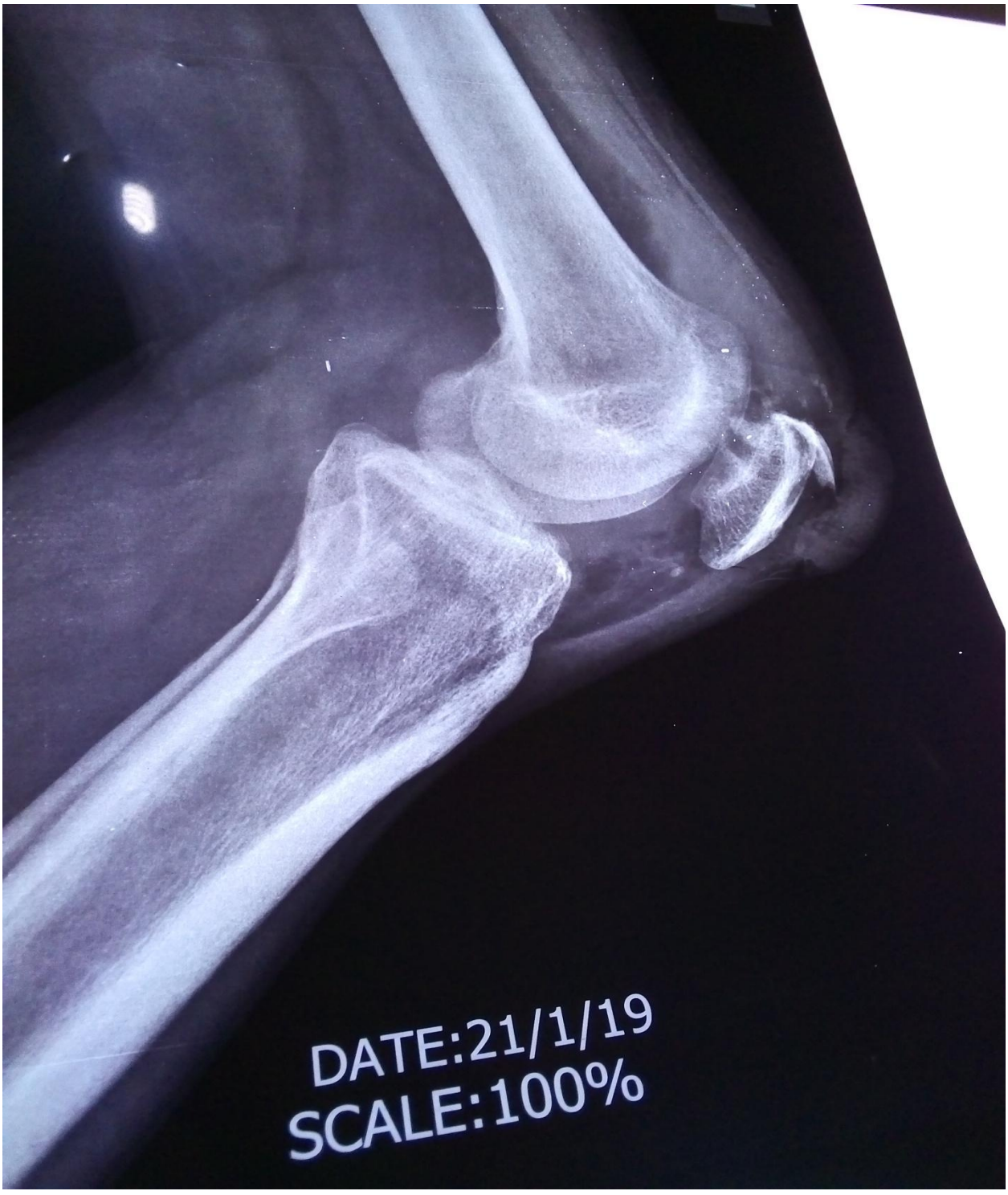

Figure II: Plain radiograph of the left knee showing a displaced sclerotic fragment of the anterior cortex of the patella.

The patient had wound debridement and sequestrectomy as well as excision of the sinus tract. V-Y Quadriceplasty was done to address the left knee stiffness. A protective above-knee cast was applied. Patient was commenced on intravenous cefuroxime and metronidazole during the immediate postoperative period. Culture of the sclerotic fragment yielded growth of Escherichia coli and Klebsiella aerogenes which were sensitive to ceftriaxone, cefuroxime and cefepime. Intravenous cefuroxime and metronidazole administration was extended to postoperative day 14 when sutures were removed and the patient was discharged to the outpatient clinic on oral cefuroxime for the next 8 weeks. Above knee cast was removed at 4 weeks post-surgery. Patient made full recovery and regained full range of motion of the left knee with physiotherapy. He was discharged from the outpatient clinic after a follow up period of 6 months.

DISCUSSION

In adults, isolated infection of the patella is usually associated with trauma as with the index patient, or surgery. In much rarer cases, compromised immune state such as seen with intravenous drug users and retroviral disease patients are associated risk factors.[2] The typical presentation of chronic infection in an adult is that of chronic discharging wound with associated stiffness and preceding history of trauma or surgery[1]. This is the picture in most cases of bone infection in our environment were most individuals initially opt for self-medication or native treatment.

The rarity of isolated osteomyelitis of the patella may occasionally lead to a delay in its diagnosis, while other diagnoses such as septic arthritis, synovitis, septic bursitis, cellulitis and a variety of rare tumours such as chondroblastoma and giant cell tumour may be erroneously made[4]. In our index patient, trauma was the cause of infection. Diagnosis was based on a high index of suspicion, clinical features at presentation, as well as radiological and bacteriological examination findings. Many of the bacteria that inhabit chronic wounds set up complex polymicrobial biofilm communities which can only be detected by tissue culture techniques[5] as in our index case where culture of the sequestrum yielded growth of Escherichia coli and Klebsiella aerogenes. Surgical debridement as well as long-term antibiotic therapy are the mainstay of management[2]. Our index patient made full recovery following thorough debridement of the patella and surrounding inflammatory and necrotic soft tissue, as well as an eight-week postoperative course of antibiotics.

CONCLUSSION

Isolated osteomyelitis of the patella is an uncommon condition especially among the adults, where trauma is a leading cause. A high index of suspicion is an indispensable tool in making a diagnosis especially in a low income economy. Surgical debridement of all necrotic and inflammatory tissues as well as long-term antibiotic administration are the mainstay of treatment.

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