Case Report

Salmonella Osteomyelitis of the Pelvis in Healthy Adults: A Case Report

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A B S T R A C T
We report a case of a healthy 32-year-old patient suffering from Salmonella osteomyelitis of the pelvis. He was treated successfully with surgical debridement and third-generation cephalosporin.

Introduction
Salmonella osteomyelitis is an uncommon condition, constituting only 0.45% of all types of osteomyelitis.1 The condition is typically associated with haemoglobinopathies, such as sickle cell anaemia; other medical diseases, such as malignancy, liver disease, alcoholism, and diabetes; advanced or very young age; and previous surgery or trauma. It is very rare in healthy persons.

Case Report
A 32-year-old healthy gentleman presented to us with a discharging wound on his right buttock for 1 month. He enjoyed good past health without significant medical history. Initially, there was a swelling over right buttock. He was told that it was an abscess by a doctor who performed incision and drainage for him subsequently. The wound failed to heal with persistent discharge. No recent or remote history of diarrhoea or abdominal pain could be elicited. On examination, it was found that he was afebrile and had a small purulent discharging wound over his right buttock.

Haemoglobinopathy and immune suppression workup were unremarkable. X-rays of the pelvis showed a roundish, well-demarcated sclerotic lesion over the right ilium (Figure 1). Computed tomography of the pelvis confirmed localised bony destruction without intra-pelvic extension (Figure 2). Sinogram revealed that the lesion had no communication with the pelvic cavity (Figure 3). There were mildly elevated C-reactive protein and Erythrocyte. Wound swab for culture yielded Group D Salmonella typhi. Diagnosis of right ilium Salmonella osteomyelitis was then made. Cefibutin (a third-generation cephalosporin) was started after consulting a microbiologist.

Debridement, sequestrectomy, and primary closure of the wound with a local rotational flap were performed. Intra-operatively, sinus tract was noted and traced down to the ilium. Some dark-coloured necrotic tissue was removed from the nidus. The histology confirmed chronic inflammation and sequestrum. Post-operatively, the wound healed well. Antibiotic was given for a total of 6 weeks. Blood parameters returned to normal, and the patient was disease free at 6-month follow-up.

Discussion
Salmonella are non-sporing gram-negative bacilli. More than 1800 serotypes have been isolated, subdivided into six groups (A, B, C1, C2, D, and E). Transmission occurs through ingestion of contaminated food or water or by direct inoculation. Salmonella infections may present in four different clinical forms: gastroenteritis (70%), carrier condition (15.5%), septic syndrome (8.8%), and focal manifestations (7.4%).2 Osteomyelitis is seen only in 0.8% of all Salmonella infections. Salmonella infection constitutes 0.45% of all types of osteomyelitis.1 It is most commonly associated with sickle cell anaemia and other haemoglobinopathies. Salmonella bacteraemia may occur during episodes of acute enteritis. Organisms are believed to lodge in the bone marrow at the sites of venous stasis and proliferate slowly, producing a chronic form of osteomyelitis. Group B is the most prevalent, followed by Groups D and C.3

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There were only a few cases of Salmonella osteomyelitis reported in healthy people.\(^1\)\(^-\)\(^8\) It commonly occurred in the diaphyses of long bones, mostly involving the femur and the humerus.\(^9\) There were also some cases of involvement of spine,\(^10\) hand,\(^8\) radius, and ulna.\(^9\)\(^,\)\(^11\) Multifocal involvement occurs in 15% of the reported cases of Salmonella osteomyelitis.\(^5\) Salmonella pelvis osteomyelitis has been reported in adolescents\(^5\) only. We are not aware of any literature report on its occurrence in healthy adults.

Chronic Salmonella osteomyelitis has been treated conventionally by surgical debridement combined with antibiotics.\(^1\) Carlson and Doboz\(^1\)\(^1\) considered that surgical debridement was not adequate and advocated radical debridement of the lesion. Bettin et al\(^8\) reported treating a chronic osteomyelitis of the humerus with corticotomy and insertion of gentamycin beads. Radical debridement with delayed bone grafting and reconstruction may be necessary.

Specific antibiotic treatment should be based on culture sensitivities. Treatment should be given until there is normalisation of the C-reactive protein values and for 4–6 weeks or more as clinically indicated. Arora et al\(^6\) reported a case of early Salmonella osteomyelitis of femur treated with antibiotics alone.

We recommend that a combination of radical surgery and intravenous sensitive antibiotics is the most effective treatment of Salmonella osteomyelitis.

References