

Primary Tuberculosis of the Fibula: A Rare Mode of Presentation.

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Abstract : A case of closed fracture of the left lateral malleolus of fibula which did not heal after a below knee plaster for six weeks. Hence, it was decided to go for an open reduction and a cannulated screw fixation. Eight weeks after the removal of sutures, the patient presented with a discharging sinus and extensive osteolytic reaction around the screw. The screw was removed and a biopsy of the necrotic tissue, showed a tubercular lesion. Isolated primary tuberculosis of the fibula is rare and the presentation with a pathological fracture has not been reported in world literature. Any osteolytic lesion after ORIF of fractures presenting with sinus, should be investigated with a biopsy to exclude a tubercular pathology.

An Indian male, 51 years old, resident of Kolkata, a toy shop owner by profession, slipped on a pavement in a rainy day and fractured his left ankle which was already mildly swollen and painful while walking. An x-ray showed impacted linear fracture of the base of the styloid process left fibula. He consulted an orthopaedic surgeon, who applied a below knee plaster which was kept for eight weeks. An x-ray showed no signs of callus formation at the site of the fracture after eight weeks. A complete haematological investigation was done to find out the underlying cause of the delayed union, no haematological abnormalities were found. (Hb: 14.7mg/dl, ESR: 9, FBS: 120mg%, PPS: 140mg%).

The patient came to us at this point, We decided to do an ORIF. A Cannulated cancellous screw was inserted to fix the fracture, the wound was closed in layers and a below knee plaster was applied. After 3 weeks the sutures were removed. The wound looked healthy. A below knee plaster was reapplied and the patient was sent home. After 4weeks the below knee plaster was removed and the patient was allowed partial weight bearing with a pair of axillary crutches.

After a week, the patient came back and complained of pain with a discharging sinus at the distal end of the suture line. A wound swab, for culture and sensitivity and a blood sample for complete haemogram were taken. Also a chest X-ray and an X-ray of the left ankle were done. The haemogram was normal. (Hb: 13.9mg%, ESR: 10) and the Chest X-ray was clear of any pathological lesions, but the radiograph of the fibula showed extensive osteolysis around the screw. [Fig. 1] A decision was then taken to remove the screw and to take a biopsy from the osteolytic area to ascertain the actual pathology. The biopsy report [28/12/2013] showed the presence of, chronic inflammatory cells, necrotising epithelioid granuloma with Langhans' and foreign body giant cells, suggestive of granulomatous inflammation compatible with Mycobacterial infection of left fibula. The patient was treated with four drugs Anti Tubercular regimen. After six weeks the sinus healed completely and the X-ray of the Left leg showed marked reduction in the areas of osteolysis with signs of progressive healing. [Fig: 2]. The sinus complete healed and swelling around the left ankle almost disappeared.



DISCUSSION

This case presented with a fracture of the left lateral malleolus, and at the time of presentation, all the blood reports and chest X-ray were normal, however there were some prodromal symptoms. After open reduction and screw fixation the wound healed well. After eight weeks following surgery the patient presented with a discharging sinus at the lower end of the healed suture line. The

swab culture of the discharging sinus was negative for microbial culture and all the haematological parameters and Chest x-ray were normal. The patient was operated on again, the cannulated screw was removed and a biopsy was taken from the wound and the histology proved *Mycobacterium tuberculosis* infection. Isolated primary tuberculosis of the fibula is rare and the presentation^{1,2} with a pathological fracture has not been found after extensive search of the world literature. This makes this case unique in presentation and thought provoking. The patient had some prodromal symptoms in the form of swelling of the ankle and painful limp, these early symptoms strongly suggest some existing pathology of the left ankle before the actual traumatic fracture he sustained. Nosocomial atypical tubercular infection has been reported recently after endoscopic operation due to contaminated water used during the operating procedure³. However, Richard Wallace Jr. et al, 1980⁴, has reported 34 cases of atypical mycobacterial infection out of total 125 cases in penetrating wound treated after accidental trauma.

CONCLUSIONS

The case under review,

- The chance of nosocomial infection can easily be ruled out because:
 - It was a planned operation on a closed fracture and the skin was intact so there is no chance of external bacterial implantation.
 - No distilled water or normal saline was used during the procedure.

Primary tuberculosis of lower fourth of fibula is rare, and presentation with a fracture is rarer still. No case has been reported in the world literature. After ORIF of any fracture, if there is extensive osteolysis around the implants detected in a post operative radiographs along with a persistent sinus, while, removing the implants one must take a biopsy of the necrotic tissue to exclude a tubercular pathology.

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