

## PROLONGED RETENTION OF AN INTRA MEDULLARY WOODEN FOREIGN BODY

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### SUMMARY:

Cases of accidental penetrating injury by foreign bodies are not rare, especially in children. In this report, a case of an intra osseous wooden foreign body retained over an 8-month period causing various complications and suspected of metacarpal tumor is presented. Various previous treatment protocols including curettage, debridement and antibiotic therapy proved unsuccessful. This case was successfully diagnosed by fistulogram using radio-opaque agents and treated accordingly.

**Key Words:** Metacarpal Bone, Wooden foreign body, Fistulogram.

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### CASE REPORT

An eight year old boy was examined and found to suffer from an excretory wound in the dorso radial side on his right hand. He had no fever and his general appearance was good, except for pain and swelling due to three dirty yellow excretory sinuses. His past medical history showed that he had experienced a small trauma while playing in the garden eight months earlier. At that time he had no pain and did not notice any penetrations of any foreign body in his hand.

Forty days after this incidence, his right hand was swollen with an excretory sinus, for which he received antimicrobial therapy because of suspected cellulites. This partially reduced the swelling and pain but did not produce remission of his problem despite his continuous use of antibiotics for prolonged period. Four months later this condition was exacerbated

for which he underwent curettage, debridement and antibiotic therapy because of suspected metacarpal tumor. The wound did not heal and the number of excretory sinuses increased, and radiographic examinations showed tumor-like lesion with sclerotic margins in the second metacarpal bone.

Physical examination showed multiple dirty yellow excreting wounds, with reduction in the range of movement at the second metacarpal phalangeal joint. Laboratory examinations showed normal CBC and ESR. His previous X-ray showed lytic lesions with destructive changes in the cortex on the radial side. Another X-ray was taken which showed spindle lytic lesion with sclerotic wall without growth plate involvement in the metaphyseal area. Fistulogram examination using radio-opaque agents revealed a 10 x 5 mm foreign body in the second metacarpal bone (Fig-1). Surgical incision showed a swollen wooden foreign body in his 2<sup>nd</sup> metacarpal bone. Surgical removal and debridement of the granulation tissue surrounding it were performed using dorso radial incision at the second metacarpal bone. A window in the bone was left open together with loose suturing was made to aid easy drainage of any excretions of the wound. Pathological report on the specimens examined showed an inflammatory lesion with many giant cells.

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Culture results showed negative for any infection. The wound healed normally and the patient was discharged seven days later. Sinus secretions disappeared three weeks after his operation and the range of movements became normal.



Fig 1: The suspected wooden foreign body as seen in fistulogram.

## DISCUSSION

Foreign bodies in various sites of the body can cause a variety of chronic inflammatory reactions that result in abnormal findings on radiological examinations including lytic or blastic osseous changes and may mimic both benign and malignant processes.<sup>1</sup> In this study a case of tissue reactions due to a retained wooden foreign body which presented itself with excretory wounds which on radiological examination revealed lytic lesions and was misdiagnosed as tumor at the second metacarpal bone. Diagnosis can be difficult especially with non-radiopaque foreign bodies such as wooden objects.<sup>2</sup> On the other hand, undiagnosed foreign objects are not uncommon and have been reported in other studies.<sup>3</sup>

Imaging examinations using CT scan has shown variable degree of sensitivities in detecting non-opaque objects. Furthermore, different types of wood have been shown to have different degrees of hydrations resulting in variations in densities on CT scan absorption

measurements.<sup>4</sup> Metallic objects, except aluminum, are opaque, and most animal bones and all glass are opaque on radiographs. However, plastic and wooden foreign bodies and most fish bones are not opaque. On the other hand, sonographic imaging, which is underused, are superior in detecting wooden objects as they are highly echogenic under these conditions.<sup>3</sup> Therefore, ultrasound has been advocated as a useful tool for detection of wooden objects.<sup>5</sup> In this report we employed fistulogram method which showed to be a useful alternative to more expensive equipments; especially in areas where access to such hi-tech is not possible. Furthermore, retained foreign bodies can present themselves as bone tumors or as osteoarthritis.

The overall results in other studies confirm that early diagnosis and treatment by removing the offending foreign objects has proved to be the best option in the treatment of lodged objects. Furthermore, this study suggests that the presence of foreign bodies should be suspected as a possible underlying cause in the differential diagnosis with radiographically observed lytic changes that are accompanied with excretory sinuses.

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