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Case Report

Removal of 6 months old 9 cm long wooden foreign body from forearm of 40 year old male: a case report

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ABSTRACT

Injuries to hand are common at work. Most of them are noticeable and can be managed. Complete foreign body removal depends on location and mechanism of injury. There are few reports of accidental injury by foreign body followed by delayed retrival of foreign body. We report this case of delayed removal of foreign body after 6 months hoping to expand the literature and to provide insight to prevent septic complications by early prompt detection and removal of foreign bodies.

Keywords: Wooden foreign body, Right forearm, Post trauma

INTRODUCTION

Hand injuries are among the most frequent causes for Emergency Department visits, many of which are due to foreign body intrusion.[1] Injuries due to foreign bodies are most common among labour class. Identification of a foreign body can be difficult, depending on the type and location of the wound and the timing and mechanism of injury. Standard physical examination fails to detect up to 38% of foreign bodies, and routine radiographs identify wooden objects in only 15% of cases.[2,3] Penetrating injuries to the forearm can compromise important anatomic structures, and persisting foreign objects may become a source of infection. Improper assessment can result in missed foreign body. Wooden fragments, plastics, glass remnants, plant thorns are few among the common foreign bodies. Soft tissue foreign bodies occurring secondary to penetrating trauma can result in patient discomfort, deformity, delayed wound healing, localized and systemic infection, and further trauma during attempts at removal.[4-6]

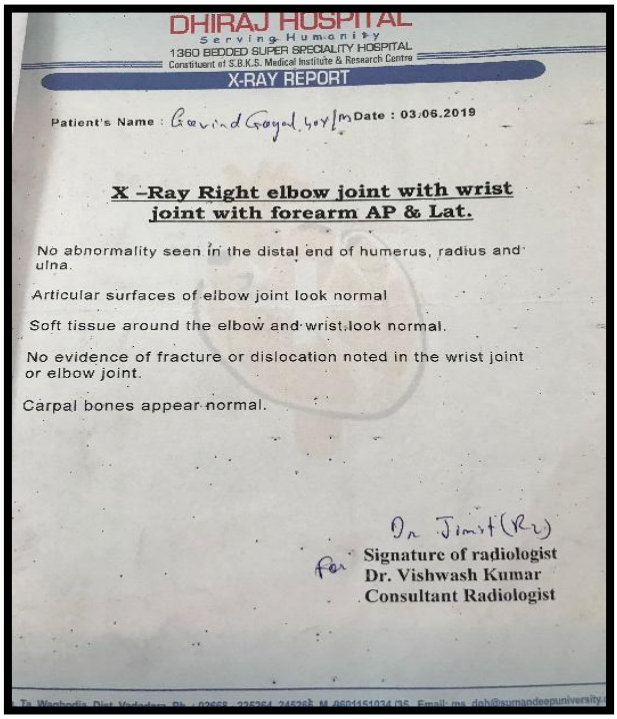
Here, we have discussed a case of 40 year old male presented to general surgery OPD with complaint of pain and pus discharging sinus over the right forearm and contracture of right hand fingers since 5 months which was later diagnosed as a foreign body (wooden fragment) in the intramuscular compartment in right forearm.

CASE REPORT

In this article, we report a case of a 40 year old male right hand dominant, shepherd, presented to the general surgery OPD with chief complaints of Pain, Pus discharging sinus over the right forearm and unable to extend the fingers of right hand since 5 months. Apparently patient gave the history of injury in his right forearm in the month of January 2019 while he was cutting leaves for his sheep while standing over the tree. At that time, patient experienced mild pain over the right forearm followed by swelling and redness and later got converted into a pus discharging sinus. Patient also experienced contracture in the fingers of his right hand

which increased gradually over the period of 5 months. Patient presented in general surgery OPD in Dhiraj Hospital, Vadodara in the month of May, 2019. Patient was admitted under General Surgery and routine investigations along with plain film radiograph of right forearm with wrist and elbow joints and ultrasonography of local part were done.

Figure 1: Plain X-ray of right elbow with forearm with wrist AP/ lateral views.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X-RAY REPORT

Patient's Name : Govind Goyal, 40Y/M Date : 03.06.2019

X -Ray Right elbow joint with wrist joint with forearm AP & Lat.

No abnormality seen in the distal end of humerus, radius and ulna.

Articular surfaces of elbow joint look normal

Soft tissue around the elbow and wrist look normal.

No evidence of fracture or dislocation noted in the wrist joint or elbow joint.

Carpal bones appear normal.

Dr Jimit (R2)

for Signature of radiologist
Dr. Vishwash Kumar
Consultant Radiologist

Figure 2: X-ray reporting of plain X-ray (figure 1).

Plain film radiograph was unremarkable.

USG local part suggested that a foreign body of size 4.3 cm at depth of 1.7 cm from skin in muscle plane with inflammatory changes seen around it in proximal forearm on medial aspect. Another foreign body of size 1cm seen in superficial plane at depth of 3 mm from skin. Another thin fragment of size 3.5 mm seen in superficial plane at depth of 1 cm from skin.

Patient was taken to the operating room where exploration of right forearm was done where no foreign body was found and drainage of pus was done. Sinus tract was not explored during that period. On post-operative day two, patient's right forearm got swollen and redness increased with continuous pus discharge. Sutures of the incision site were opened and daily dressing was done. After few days of dressing, patient was referred to plastic surgery department in view of grafting at the incision site and to release contracture of the fingers. MRI of right forearm was advised.

Figure 3: Pre-operative picture of the right forearm with foreign body within it.

MRI of right forearm suggested

Collection within the inter and intramuscular compartment of upper 2/3rd of right forearm. It measures approximately 13.0×1.4×0.9 cm in size. It is extending as sinus opening distally in anterior skin of middle 3rd of forearm. Perilesional oedema in adjacent muscles and adjacent soft tissues. It shows fairly large foreign body(possibly wooden fragment) within, measures 8.0×0.7×0.3 cm in size. Mildly displaced fracture with adjacent marrow oedema is seen in radial styloid process.

Patient was transferred to Plastic Surgery Department and there he underwent surgery on 19th June, 2019 in which exploration of flexor compartment of right forearm with removal of 9 cm long foreign body (wooden fragment) from proximal 1/3rd of forearm with drainage of pus collection was done. Around 150 ml of pus was drained with excision of sinus was done.

Figure 4: Retrieved radiolucent 9 cm long wooden fragment from forearm.

Figure 5: Post-operative picture of right forearm after 2 months.

Post-operative period was uneventful.

Patient was discharged on 22nd June, 2019 with healthy suture line and no discharge or soakage.

Patient came on follow up on 3rd July, 2017. Sutures were removed and there was movement of fingers of right hand.

Patient came for follow up on 22nd august, 2019 with healthy incision site and full range of movements of forearm and fingers of right hand.

DISCUSSION

Foreign body should be suspected and ruled out in all cases of penetrating injuries by radiological studies and proper history. Many hand and forearm injuries are caused by low density, radiolucent foreign bodies which may be missed during emergency management. Superficial foreign bodies can be easily localized during physical examination and removed without any difficulty. However, radiolucent objects, particularly those that are smaller and deeper, may not be identified on plain film radiographs or even during superficial surgical exploration. It has been reported that 15-30% of the foreign bodies get overlooked at the time of initial examination.[7] These overlooked foreign bodies are a major cause of medical litigations. The missed foreign body may remain asymptomatic for prolonged period or else may lead to multiple complications including pain, chronic discharging sinus, abscess, necrotizing fasciitis, vascular vents, impaired tendon mobility or triggering of digits.[8]

In literature, depending upon the nature of foreign body, various modalities are recommended for diagnosis and localization which include plain radiographs, ultrasonograms, CT scans and MRI.[9,10] Radiopaque material is usually easy to detect but it is radiolucent bodies like wooden fragments which are difficult to detect and are usually missed.

CONCLUSION

Accurate localization of foreign bodies enables surgeons to make cosmetically appealing incisions and remove foreign body with minimum amount of dissection and operation time. This also helps patients to heal faster, better with minimum time and wound complications.

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