Case Report

Management of Seventeen days Old Infected H. De Boeck et al
Type 4b- Supracondylar Fracture Humerus - A Case Report

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Abstract

Introduction: We are reporting here a case of delayed presentation of an infected maluniting supracondylar humerus fracture in a child and we find it significant to report it in view of decision making which is important considering how complex the results might have been if the surgeon had decided to do an anatomical reconstruction surgery in presence of infection, delayed presentation, deformity and prior treatment by a bonesetter. To the best of our knowledge, no case of similar nature has been reported in the past.

Case Report: Seven year old boy presented with an infected compound maluniting fracture, supracondylar region of humerus. The closed fracture was converted to a compound fracture by the bone setter who had treated the child.

Conclusion: Fractures presenting with complications are challenging to treat and a good functional outcome must be the goal of management rather than anatomical reconstruction.

Keywords: Infected, supracondylar humerus fracture, bonesetter.

Introduction

Management of closed fractures in children by bonesetters is quiet common in India. Complications are frequent and hence delayed presentations to the Orthopaedic surgeons. Maluniting fracture at presentation is a common scenario. Conversion of a closed fracture to a compound one by the bonesetter is uncommon. Reported here is such a case with successful outcome after conservative surgery.

Case Report

A seven year old boy presented with a history of fall 17 days back [1]. He underwent treatment with a bonesetter for his closed swollen painful left elbow injury. On the seventeenth day after injury the quack had opened the bandages put by him only to see the infected wound, which had most probably occurred due to pressure necrosis, thus making the fracture a compound one. The parents then sought scientific help. Physical examination revealed a left elbow swelling, an infected wound of 3 centimetres x 2 centimetres on the medial aspect of the left elbow with underlying bone protruding through the wound and painful severely restricted movements at the deformed elbow.

Fig 1 Photograph of the left elbow seventeen days post injury showing the infected wound.

Fig 2 A plain anteroposterior view radiograph revealed a H.De Boeck et al type 4b extension type supracondylar fracture [2] of the left humerus with posterolateral displacement of the distal fragment and presence of callus.

Fig 3 Lateral plain radiograph showing maluniting supracondylar humerus fracture seventeen days post injury

A culture swab taken from the wound revealed growth of staphylococci sensitive to cefuroxime. Preoperatively intravenous antibiotic cefotaxime was started and continued post operatively for three days till culture report arrived, after which cefuroxime was started and continued for ten days till wound healed.
The parents were explained the nature of surgery that was planned and that the child will have a valgus deformity at the elbow and restricted range of motion which could be addressed later.

The surgical procedure involved extending the wound, identifying the ulnar nerve and retracting it, wound debridement and excision of the protruding bone spike of the proximal fracture fragment of the humerus. Figure 4 Photograph taken intra-operatively of the medial aspect of elbow showing protruding medial spike of the proximal fragment of supracondylar fracture humerus. The wound was sutured loosely to cover the ulnar nerve and above elbow plaster slab applied in ninety degree elbow flexion and forearm supination.

Alternate sutures were removed on the fifth postoperative day in view of superficial infection. Wound was dressed and the above elbow slab reapplied. The remaining sutures were removed on the tenth postoperative day. The wound had completely healed. The posterior above elbow Plaster of Paris slab was continued till the fourteenth postoperative day, at which point the slab was discarded and the child was taught active elbow movements.

At eight weeks post injury the child had regained complete range of elbow movements and had cubitus valgus of thirty five degrees. Fig. 7 Photograph of the child’s elbow in full extension eight weeks post injury. Fig 8 Photograph of the child’s elbow in full flexion eight weeks post injury. Fig 9 Photograph of the child with his elbow showing thirty five degrees of cubitus valgus.

The result of the conservative surgery yielded reasonably good results. The cubitus valgus was cosmetically acceptable to the child’s parents.

Discussion
Fractures presenting with complications after treatment by quacks is quiet common in India. The method of treatment will change depending on the presentation[3] and conservative surgeries should be done to pull through the existing crisis rather than trying to achieve too much. In children, conservative surgeries will yield better results than in adults and especially so in the elbow where further dissection in an already mismanaged injury may lead to unforgiving complications like myositis ossificans[4]. The advantages of such surgeries outweigh the drawbacks. Remodelling is rapid and will restore almost normal anatomy and good function even with severely displaced fractures [5].
Conclusion
Conservative surgeries do yield good functional results if properly planned and executed. Such surgeries yield better results in the presence of delayed presentation with complications like infection, callus formation, deformity. Revisiting and doing subsequent elective surgery becomes easy in the absence of infection.

Clinical Message
Achieving a good functional result is more rewarding than restoring anatomy and cosmesis at the cost of function, especially in complicated delayed case presentations.

References

Conflict of Interest: Nil
Source of Support: None

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