

Transepiphyseal Separation of Distal Humerus, A Diagnostic Challenge

¹Ten FF; ¹Sia U; ¹Kong PFX; ²Faris IP; ²Ibrahim MAR

¹Department of Orthopaedics, Sarawak General Hospital, 93350 Kuching, Sarawak

²Faculty of Medicine and Health Sciences, University Malaysia Sarawak, 43000 Kota Samarahan, Sarawak

INTRODUCTION:

Transepiphyseal separation of distal humerus is a rare but clinically significant injury in the pediatrics population, especially in less than 3 years old. The known mechanisms are accidental trauma, non-accidental trauma (NAT) and traumatic childbirth. ^[1,2] Cesarean section has been described to reduce the incidence of birth-related injuries, however there are cases reported in uncomplicated Cesarean delivery as well. ^[3] The diagnostic challenge arises at birth as lacking of ossification nuclei on radiographs after birth. In this case report, we described the usage of ultrasonography and arthrogram to facilitate the diagnosis and management of a case of transepiphyseal separation of distal humerus in newborn.

REPORT:

A newborn girl, born at 37 weeks via emergency Cesarean section due to fetal distress after an uncomplicated pregnancy, was noted in the nursery that reduced movement over the left upper limb associated with swelling over elbow region.

Examination revealed swollen left elbow kept in extension with palmar grasp reflex present. Radiographs showed axial malalignment between the humerus and radius/ulna. Ultrasonography was utilized to confirm the diagnosis as the cartilaginous epiphysis was not seen on plain radiographs but could be visualized clearly on ultrasound.

Arthrogram was done at age of Day 5 to visualize the cartilaginous epiphysis and proceeded with closed reduction. Fracture was fixed with two lateral K-wire and protected with backslab. Wires were removed 3 weeks later. Serial radiographs during follow up showed callus formation and near-normal alignment.

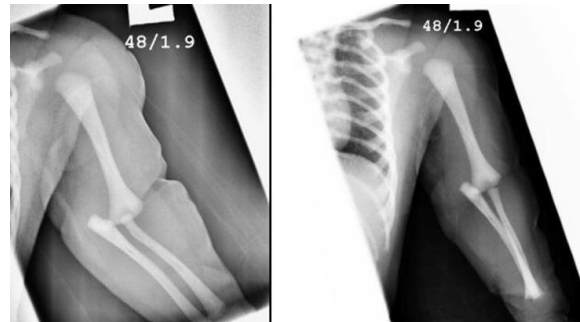


Figure 1: Plain radiographs revealed axial malalignment between humerus and radius/ulna



Figure 2: Ultrasound showed separation of epiphysis from the humeral metaphysis

CONCLUSION:

Transepiphyseal separation of distal humeral poses a diagnostic challenge in pediatrics age groups, attributing to the absence of ossification nuclei on radiographs. Sound clinical assessment and utilization of ultrasonography are valuable for definite diagnosis and prompt treatment to prevent further complications.

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