Delayed traumatic dislocation of the radial head

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**Abstract**  
We present a case of delayed dislocation of the radial head in a 9 year old child. An excellent result was obtained with open reduction and reconstruction of the annular ligament.

**Résumé**  
Nous présentons un cas de déboîtement différé de la tête radiale dans un enfant de 9 ans. Un excellent résultat a été obtenu avec réduction ouverte et reconstruction du ligament annulaire.
Case-Report
A 9-year-old male child was admitted in the orthopaedic ward with a history of injury to the right elbow 45 days back. There was tenderness and swelling anteriorly at the level of radial head. Elbow movements were painfully restricted in all directions. The relationship between olecranon, radial head and lateral epicondyle was maintained when compared to opposite elbow. Distally there was no neurovascular deficit with active finger movements present. Prior to coming to us, the patient’s parents consulted other doctors. One of them advised a radiograph of the right elbow (approximately 26 days after the injury), which was normal (Figure 1). We ordered fresh radiographs of the right elbow region (Fig. 2), which showed an isolated dislocation of the right radial head with myositis ossificans. The patient was operated 2 days later. A lateral approach to the elbow was used. Intraoperative findings included a torn annular ligament with evidence of myositis. After careful sharp dissection, the radial head was reduced, and a Kirschner wire passed from capitellum into the reduced radial head. The annular ligament was reconstructed by the use of fascial strips from the triceps tendon (Lloyd’s Robert Procedure)[5]. The elbow was protected in a forearm slab postoperatively. The transcapitellar wire was removed after six weeks and the patient was advised active physiotherapy. Follow up at 3 years showed almost full flexion and extension. There was 30 degrees of supination from the neutral position, with only slight restriction of pronation terminally (Figure 3). The radiograph showed the radial head in position with evidence of new bone formation along the lateral border of ulna (Figure 4).

Discussion
Isolated dislocation of the radial head in children without fracture of the ulna is a rare injury. The diagnosis is easily missed [3,4]. An acute isolated anterior dislocation can occur in children as well as an extremely rare lateral or posterior dislocation because of the plasticity of bone [6]. Various mechanisms of injury have been offered including hyperpronation of the forearm [1,2]. Lincoln and Mubarak [4] gave a new radiographic sign, the #ulnar bow sign# to assist in the proper recognition of this injury pattern. Late isolated dislocation of the radial head after 10 and 21 days has been reported [7]. Late redislocation in a cast has also been described [6]. We agree with the observation of Weisman [7] that the initial trauma caused an injury to the annular ligament with dislocation of radial head. These authors further stated that the radial head dislocated at the time of impact, spontaneously reduced by the time first radiographs were obtained and redislocated while the arm was in cast. In our case a radiograph at 26 days post injury was normal. A new radiograph after 45 days showed dislocation. In our opinion myositis appeared to be responsible for the delayed isolated dislocation in the presented case as we found evidence of myositis around the radial head especially in the biceps muscle. The irritation and inflammation due to myositis is well documented in literature. The dislocation being nearly 6 weeks old, operative treatment was considered. The final result was excellent with the patient resuming his normal activities. The new bone formation seen along the lateral border of ulna, also mentioned by Vesely [6], may be due to a periosteal reaction arising from the Lloyd#s Robert procedure of using triceps fascia for reconstruction of the annular ligament.
Legends

Figure 1: Normal radiograph of the right elbow 26 days after injury.
Figure 2: Radiograph of the right elbow 45 days after injury showing isolated dislocation of the radial head with myositis ossificans.

Figure 3: Follow up at 3 years. Photograph showing restriction of supination.
Figure 4: Follow up at 3 years. Radiograph shows reduced radial head with evidence of new bone formation along the lateral border of ulna.
References


