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CONGENITAL DISLOCATION OF THE HEAD OF THE RADIUS

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Congenital dislocation of the head of radius, not associated with other skeletal deformity or syndrome, is a rare condition. We consider this as an entity of its own that has also to be distinguished from congenital recurrent dislocation of the radial head.

Abbott (1892) was the first to report 9 cases of this condition; its complete description, however, was in McFarland's article (1936) with 11 cases. A few case reports of this deformity have been published (Bonneberg 1892, Powers 1903, Meng 1940, Rose & Thomas 1938, Magee 1947, Caravias 1957, Cockshott et al. 1958).

England discussed 21 cases he had seen. Recently, E. E. Almquist et al. (1969) found only 4 isolated congenital radial head dislocations among their 18 cases.

We will present 3 isolated cases of the above condition, describe their clinical and radiological pictures, and the results of their treatment.

REPORT OF CASES

Case 1. Male, 18 years old, skilled factory worker. He presented a slight prominence in the outer part of the antecubital fossa, causing him mild pain and discomfort, since incurring a trivial injury to his elbow two months previously. He insisted that this prominence was present since birth, but without pain or significant functional difficulty of the elbow.

On examination, there was 20° restriction of the elbow flexion, while extension and rotation of the joint were normal.

X-rays showed anterior dislocation of the radial head which appeared underdeveloped and domed, the upper third of the ulna being large and bent forward and radially (Figure 1).

Excision of the head of the radius was performed in order to eliminate the persisting pain. The patient, seen six months later already back at his work, had painless elbow but with the same range of pre-operative movements.



Figure 1. Case No. 1. X-rays of the anterior dislocated radial head, which is underdeveloped. Note the bowing of the upper ulna.

Case 2. Child, 3 months old, was brought to us because of keeping the right forearm pronated since his normal birth. The head of the radius was palpable anterolaterally out of the normal place. Passive elbow movements were full except a 40° limitation of supination.

On X-ray the dislocation was confirmed and also the radius appeared long with its head higher than the radial notch of the ulna (Figure 2).

Close reduction was attempted without success and physiotherapy was recommended.

One year later the elbow movements were normal but on X-ray the dislocation was present.

No treatment was advised.

Case 3. Female, 16 years old. The parents reported that since her infancy she had kept her right forearm pronated and a painless click was heard on elbow movements. Since having lifted a heavy weight a few months before her admission, the elbow had been painful.

Clinically there was about 30° restriction of extension and a click was heard on rotation.

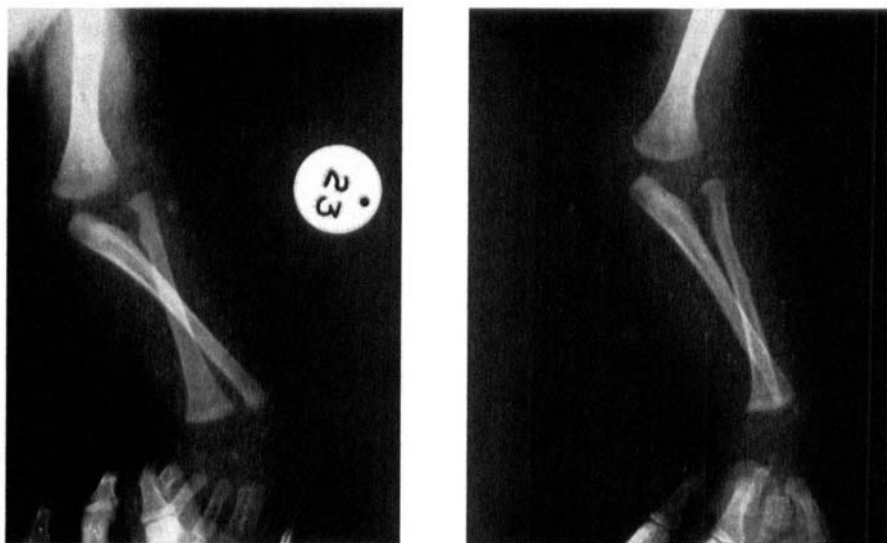


Figure 2. Case No. 2. X-rays of the elbows of the 3 month-old child.

X-rays showed (Figure 3) anterior dislocation of an underdeveloped radial head, flat capitellum and a posterior bowing of the upper ulna.

The radial head was excised and a cartilaginous loose body was also removed. At 18 months follow-up she gained full painless movements.

COMMENTS

Several hypotheses were forwarded as to the etiology of this malformation, such as an hypoplastic capitellum (Osmond-Clarke 1948), curvature of the ulna following an embryonic injury (McFarland 1950, Caravias 1957), or laxity of the annular ligament.

We think the dislocation is a developmental defect and the above structural changes are secondary.

The usual clinical findings consist of a very small limitation of the joint movements and slight deformity due to the dislocated radial head. McFarland found little restriction of elbow movements in 5 of his 11 cases. In all three of our cases the movements were only slightly limited.

Apart from the dislocation, which is usually anterior, the X-rays disclose a hypoplastic and domed radial head, a dysplastic capitellum, a posterior bowing of the upper ulna and increased length of the radius. A few cases have been reported with calcification in front of

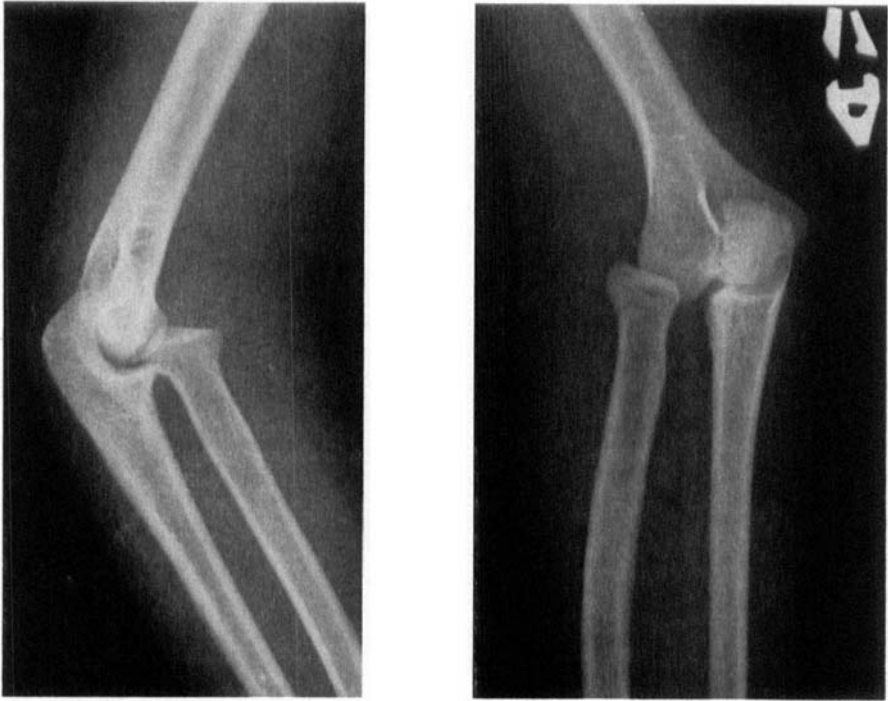


Figure 3. Case No. 3. X-rays show the anterior dislocation of the domed radial head and the increased length of the radius.

the radial head. These structural changes were present in our reported cases.

Owing to the small deformity and the good function of the elbow, we do not believe that treatment is advisable unless there is great limitation of flexion-extension or persisting pain, usually after trauma of the elbow, as in two of our cases.

Excision of the radial head is recommended in such cases in adults patients.

In children physiotherapy is directed toward increasing the range of movements. Closed reduction is not fisible and the successful open reconstruction of the joint would be a difficult surgical exercise involving shortening of the radius and annular ligament repair with doubtful results.

SUMMARY

1. Three cases of congenital dislocation of the head of the radius are reported.

2. In all our cases the dislocation was anterior causing slight deformity and little functional impairment of the joint.

3. Resection of the radial head was performed in two patients because of persistent pain. The restricted rotation of the forearm in the small child was greatly improved by physiotherapy.

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