Letter to Editor

Iran J Pediatr
Feb 2013; Vol 23 (No 1), Pp: 118-124

Exellent Result of a Mirror Hand Anomaly Treatment

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Received: Apr *04, 2012*; Accepted: *Oct 11, 2012*;
First Online Available: *Jan 02, 2013*

The authors report a case of ulnar dimelia deformity in an eleven month old boy and the subsequent successful surgery of this deformity. The second digit has been pollicised and the first and third digits have been amputated. We followed the patient for about two years and observed proper functional outcome and acceptable appearance.

The ulnar dimelia deformity is an extremely rare congenital anomaly. This anomaly is formed by duplication of ulna and ulnar side of hand and absence of radial components[1,2]. Few orthopedic surgeons will face with this anomaly and no particular surgeon has gained enough experience to delineate clearly the best method of treating so many complex problems associated with this deformity.

The patient was an eleven month old boy who was the only child of a consanguineous marriage. There was no family history of congenital anomaly and there were no other abnormalities. The hand had seven well formed fingers dangling from palm (Fig 1).

All fingers were approximately on the same plane and there was no thumb and no syndactyly. Pre and postaxial fingers had similar figures. Thenar prominence was absent. Wrist had flexion deformity and total range of motion of elbow was between 10 and 80 degrees. The shoulder range of motion was acceptable and scapula was not hypoplastic. Radiogram showed

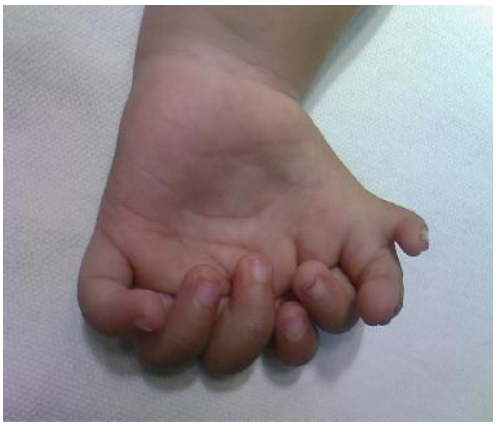

Fig. 1: Gross view of the hand

two ulnar bones which were faced to each other in proximal portion and articulated with distal humerus separately. There were 4 carpal and 7 metacarpal bones. Considering that the second finger had better function than the others based on parents' observation, this finger was used for classic pollicization (Transfer of a digit on its neurovascular pedicle with shortening, trans-position and rotation of the digit). The first and third fingers were amputated and the skin used for reconstruction of the web (Fig. 2). Following the surgery the limb was put in long arm spica cast for two weeks and then in short spica for additional two weeks. The parents were informed thoroughly about the importance of

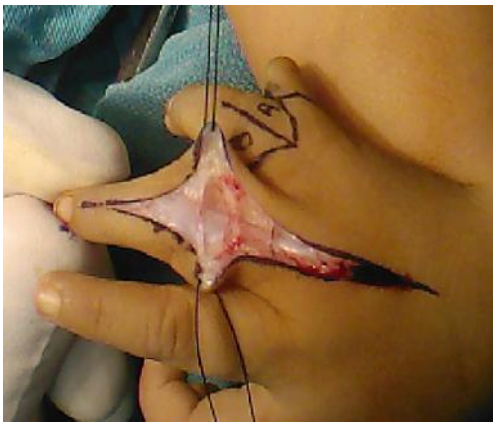

Fig. 2: After surgery

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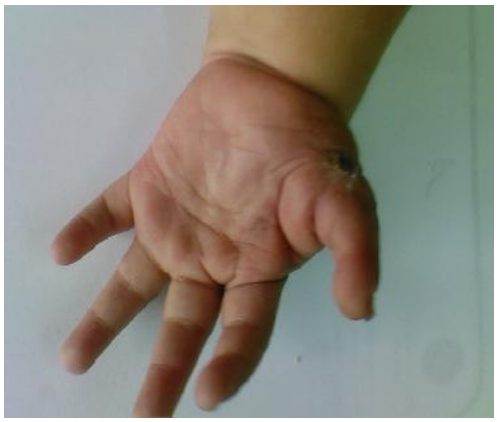

Fig. 3: 8 months later

Fig. 4: Good prehension after 20 months

forcing their son to use his operated hand. After 2 years follow up the hand had acceptable function, prehension (Fig. 3, 4) and there was no sensory deficiency.

Duplication of ulna is an extremely rare anomaly. The radial sided ulna is almost always hypoplastic and short and the hand is deviated to radial side and the limb is also shorter than the contralateral side[1-3]. This anomaly is classified as duplication according to IFSSH (International Federation of Societies of Surgery of the Hand) classification; however, because of complete substitution of radial components, this anomaly is not absolutely classified as a pure duplication[1-3]. Until 1997 only 60 cases of this kind anomaly have been reported[3-5] and this number reached to 70 in 2000, three of those patients had congenital dislocation of ipsilateral shoulder additionally[6]. There are different interpretations from ulnar dimelia deformity. In 1982, Gorriz proposed this anomaly as anteroposteriorly undifferentiated limb with polydactilism[3]. In 1983, Gropper characterized this anomaly with 3 cluster fingers in radial side and 4 cluster fingers in ulnar side[4]. The ulnar demelia cases with especial figures had been reported. King and Hoyes reported a case of ulnar dimelia anomaly with eight digits in the hand and a forearm with an ulna and a distinguishable radius. In 2005, Jafari and Ghanem reported a case with extended duplication proximal to elbow and with a duplicated humeral head[5]. According to literature, the best age for reconstruction of hand is before the second year[6]. Before the surgery, the parents are encouraged to do passive range of motion exercise and their careful observation during playing for determining the best radial digit for pollicising[3-5]. We treated our patient according to these principles at the eleventh month and after 2 years follow up good outcome was observed. It seems that the earlier the operation is done the better outcome is achieved.

Key words: Mirror Hand; Cogenital Hand Deformity; Ulna

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