CASE OF EXTENSIVE POLYDACTYLY OF FOOT

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**SUMMARY:** A case of extensive polydactyly of the foot is being reported because of its rarity. The result of surgery has been satisfactory from cosmetic and functional points of view. A comparison with similar cases reported in the literature is included.

Polydactyly in the foot is a rare occurrence, and when it happens it usually is a duplication of a single digit, either on the pre-axial or post-axial side.

We are presenting a case with 8 fully developed toes with 7 metatarsals and one accessory cuneiform bone in the right foot.

**CASE REPORT**

A 25 year old male presented for cosmetic correction of the deformity of his right foot. The main problem was that he was unable to wear shoes. There was no contributory factor in antenatal history. There was no family history of similar deformity and his three siblings were normal.

On examination, he was found to have 8 toes in his right foot (Fig.1). The first toe was bigger than the rest. It looked like a big toe, but was at right angles to the axis of the foot. The fourth toe was smaller than the first one, but similar in shape to that of a great toe. There was a small cleft between this toe and rest of the four toes on the fibular side and they appeared normal. They looked like the second to fifth toes of a normal foot. Skiagram of the foot showed the presence of 7 metatarsals and 8 toes. The first metatarsal was smaller but the thickest of all the seven, whereas the 3rd metatarsal was also smaller and thicker than the 4th, 5th, 6th and 7th metatarsals. There was an accessory cuneiform bone present at the base of the 3rd metatarsal in between the second and third cuneiform bones; first and fourth toes had two phalanges each (like a great toe) and the rest of the 6 toes had 3 phalanges each (Fig.2). The leg bones were normal with normal knee and ankle joints; function of the toes was also normal. There was no other congenital anomaly.

**OPERATIVE PROCEDURE**

Under general anaesthesia through an incision on the anteromedial side of the foot the medial two metatarsals along with the toes attached to them were excised by careful dissection of the soft tissues and preservation of the neurovascular structures.
Accessory cuneiform was also excised. The third metatarsal was displaced medially and was fixed with a K wire. Bone graft procured from the excised metatarsals was used. The foot was brought to a cosmetically acceptable shape and the wound was closed in layers (Fig. 3). Below knee plaster immobilisation was given for 6 weeks. Post-operative period was uneventful. Patient was allowed to walk on removal of the plaster under the supervision of a physiotherapist. After a 24 month follow up the gait of the patient is normal and he is wearing a normal pair of shoes. Post-operative skiagram of the foot is shown in Fig. 4.

DISCUSSION

Duplication anomalies in the foot are rare. Srivastava reported a case of duplication in the lower limb. His case had duplication of femur and fibula as well. The foot had 8 toes and was in equinovarus. Smillie reported a case with 3 lower extremities. Norman also reported a similar case with 3 lower extremities. In our search of the literature for extensive polydactyly in the foot, we were not able to find a similar case of isolated extensive polydactyly of the toes with normal long bones of the lower extremity.

Polydactyly is more common in the hand, and most feel that it is the commonest congenital anomaly of the hand. Even there, it usually is a duplication of a single digit and is classified as preaxial, central or post-axial depending upon the digit involved. It is rare for an individual to have more than 6 fingers in the hand. However, one condition where this occurs is "mirror hand", where about 8 fingers are found in a single hand.

By definition, "mirror hand" comprises of absence of radius with doubling of ulna, carpal bones and finger rays with absence of the thumb. The difference between extensive polydactyly and mirror hand is exclusively made by the presence or absence of the anomalies in the forearm. Cases of extensive polydactyly will have normal forearm bones, while a mirror hand has duplication of the ulna. Although our reported case, by its appearance tempts us to coin the term "mirror foot", we cannot use the term because our patient has normal ankle and leg bones. Hence it could only be called as extensive polydactyly.

References


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