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DIPLOPEDIA

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Diplopedia is a congenital malformation with complete or partial double-foot formation. Only 19 examples of this malformation have been described in the literature during the past fifty years. Apart from a series of 4 cases published by Gandolfi et al. (1965), the reports have always consisted of single cases. In view of the rarity of the condition, we have found it of interest to report the following case.

Boy, aged 14 months. Pregnancy and delivery were normal. One sister, who is normal. Malformations of the nose and of both hands and feet were found at birth. The nasal cavity was stenosed but no harelip or cleft palate was found. The hands were flipper-like, and 6 to 7 nail elements could be distinguished on both sides. The thumb was missing bilaterally (Figure 1).

Both feet were extremely broad with the hind-foot in a varus position and the forefoot in an adducted equino-position. It was not possible to correct the abnormal position of the feet. 10 toe elements were found on both sides (Figures 2 and 3).

The spinal column, chest, thighs and upper arms showed normal osseous conditions radiologically. The forearm was normal on both sides, but both hands showed syndactylism of all fingers. The number and structure of the metacarpal bones were normal and the proximal phalanges could easily be distinguished, but not the distal phalanges.

Both thighs were rotated outwards with the knees in a varus position. The lower leg consisted of 2 bones of apparently normal proportions; one tibia-like in the upper end, the other pointing about 1 cm proximally to the first and crossing it in the middle of the diaphysis (Figure 4). The changes found were remarkably symmetrical and it was difficult to designate the longer bone. The formation of a double tibia is one possibility. The tarsus consisted of 2 heel-bones, 1 talus and 2 scaphoids on both sides, together with ossification centres for 3 unidentified tarsal bones. The right foot had 10, the left 9 completely or partially developed metatarsal bones, with corresponding toes. In both feet the metatarsal and phalangeal bones situated centrally were strongly built, the size and strength decreasing peripherally (Figures 5 and 6).

Because of the severe deformities, amputation was considered to be the only possible treatment. However, corrective surgery was attempted first in the form

Figure 1. Volar view of the left hand.

Figure 3. Plantar view of the right foot.

Figure 2. Medial view of the right foot.

Figure 4. Antero-posterior radiogram of the pelvis and lower extremities.

of removal of the medial part of the foot and tenotomy of the medial Achilles tendon. The operation confirmed the radiological findings, whereas the vascular and neurological conditions could not be further elicited.

The most commonly encountered duplication of the extremities is polydactylism with an incidence of 0.05 to 0.1 per cent. By comparison, diplopedia is rare, especially in the form demonstrated, where the duplication includes forefoot as well as hindfoot. As Weil (1924) pointed out, the duplication always takes place around the pre-axial ray, analogous to conditions in the upper extremity (Werthemann 1952).

Interest in congenital deformities of the extremities has been increasing during the past decade, though mainly in the skeletal deficiencies, where O'Rahilly's classification (1951) has contributed to a better understanding and treatment of these patients (Hall 1962). Treatment of congenital skeletal duplications is less complex, but should be more individual, for which reason centralized treatment would probably be advantageous.

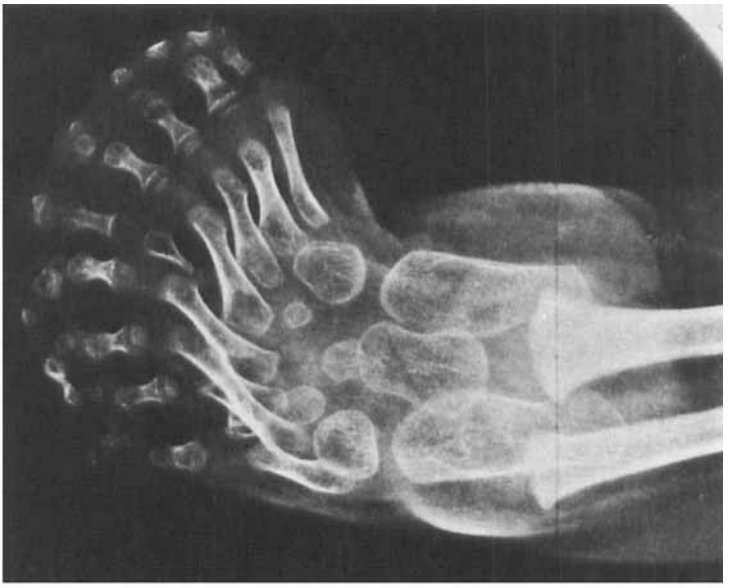

Figure 6. Dorso-plantar radiogram of the left foot.

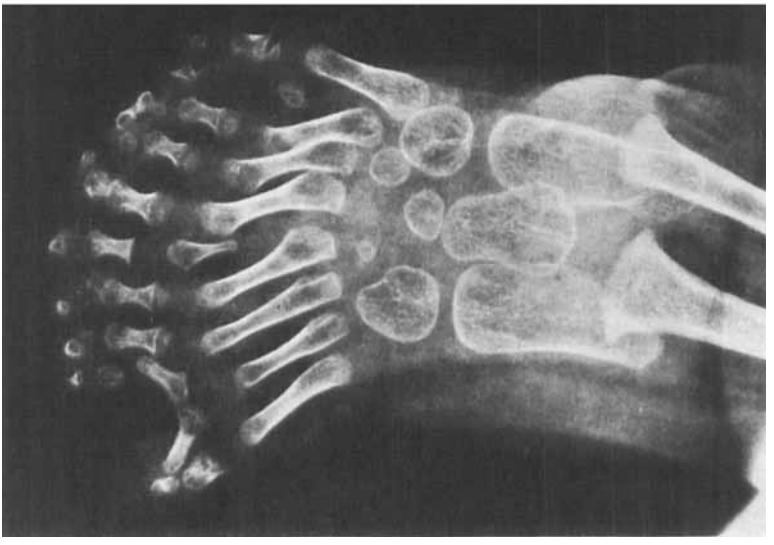

Figure 5. Dorso-plantar radiogram of the right foot.

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