Clinical Quiz

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A child with congenital amputation of the foot

Clinical Presentation

Congenital amputation of a limb is a rare birth defect characterized by failure of formation of the terminal part of an extremity. Also known as congenital transverse deficiency, this condition is thought to be due to mechanical disruption of a developed limb rather than a congenital malformation. It can affect one or more limbs and an upper limb deformity is more commonly seen. We present here a case of congenital amputation of foot as clinical quiz to briefly highlight the clinical features of this rare birth defect and its etiology and management.

A 2-month old male child was brought to our outpatient department with the complaints of absent left foot and toes since birth. He was the first child of non-consanguineous parents born at term by an uneventful vaginal delivery. Although the mother did not attend regular antenatal checkups, there was no history of fever with rashes, drug intake or exposure to radiation during pregnancy. Clinical examination revealed absent forefoot and midfoot with rudimentary toe buds. It looked like a surgical partial foot amputation (Figure 1). There was no evidence of congenital constriction bands or limb length discrepancy, and rest of the skeletal survey was normal. Examination of the chest, abdomen and cardiovascular system were normal. Radiographic examination showed normal tibia and fibula with absence of all the bones of left foot except talus and few rudimentary bones (Figure 2).

Questions

1. What is the diagnosis?
2. What is the etiology of this condition?
3. What is the management?
Children's understanding of their disability is incomplete at 6 years of age but at around the age of 8 or 9 years, they come to which allows normal shoe wear. But, the absence of foot may have a significant negative effect on the self esteem of the child. Discussed above, these children do very well functionally with prosthetic management in the form of a slipper-type prosthesis seen in the upper extremity as compared to lower extremity. Although most common cause of congenital foot deficiency is formed talus was present. Jain and Lakhtakia found 4 cases of congenital amputation of foot in their series of 36 cases. They excluded amputation through digits and toes from the study. They observed that the transverse deficiency at the level of hind foot was less frequent than those at the forefoot. Unilateral as well as bilateral congenital amputations were more frequently seen in the upper extremity as compared to lower extremity. Although most common cause of congenital foot deficiency is said to be constriction band formation (streeher's bands), no evidence of any constriction band was present in our patient. The goals of the management of these children with foot deficiencies are to maximize the child's functional independence and minimize the psychological impact of the condition. Early prosthetic fitting in a child with congenital amputation may be beneficial to prevent delay in functional development. This helps in easy adaptation to the deformity and development of good compensatory mechanisms. A growing patient requires frequent change of prosthesis usually every 15-18 months. As discussed above, these children do very well functionally with prosthetic management in the form of a slipper-type prosthesis which allows normal shoe wear. But, the absence of foot may have a significant negative effect on the self esteem of the child. Children's understanding of their disability is incomplete at 6 years of age but at around the age of 8 or 9 years, they come to a much more complete understanding of their handicap. So the older children and adolescents need encouragement for their psychological build up to cope with their disability.

In conclusion, we describe an uncommon and peculiar case of congenital amputation of foot at the level of hind foot. Application of slipper-type prosthesis along with psychological build up of the child results in good functional outcome. We feel that further studies by specialized paediatric orthopaedic units are required to know the actual incidence and etiology of this rare condition.

References