Fibular hemimelia in a neonate

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A 10-day-old male child was referred to our tertiary care center from a primary health center for further management. The baby was born in a non-consanguineous marriage. No antenatal, natal, or postnatal complications were present. The baby was born by normal vaginal delivery, cried immediately after birth, and breastfed within half an hour. Her mother informed us that her second-trimester scan revealed a few abnormalities in the infant's right limb. There was no history of drug intake. There is no history of any oligo and polyhydramnios present. There was no history of alcohol consumption or sickle cell disease in the mother. Family history was not significant. The baby had an appropriate weight of 3 kg and a height of 50 cm. Birth vaccinations was taken. The baby was neurologically normal, and muscle tone and power were normal. On closer inspection, the right lower limb was shorter and had a bony protrusion in the lowest portion of the limb (Fig. 1). We can detect a bone deficit through palpation. The joint movement was not bothersome. On the right limb, there were only three digits, and the first and second toes had syndactyly. No other anomalies were present in the baby.

Despite its rarity, it is the most common type of congenital lack of long bones in the limbs, followed by the tibia, ulna, radius, and femur [1]. According to estimates, there are between 5.7 and 20 occurrences per 1 million live births [2]. Boys are twice as likely as females to be afflicted with this illness. There is no genetic link at this point. A fibular hemimelia is a congenital lower limb anomaly that encompasses a spectrum from mild fibular hypoplasia to full fibular aplasia and is characterized by the partial or complete absence of the fibula. Achterman and Kalamchi classified it based on the amount of fibula present. As per classification, ours is type II [3]. Due to the absence of the anterior tibial artery, amniotic bands are the probable cause of this condition.

The long fetal bones can be measured from 11 weeks onward [4]. In embryological life, the lower extremities are sonographically seen before the upper extremities, whereas the movement of the upper extremities is seen before the movement of the lower extremities. Early antenatal scans will give you a chance to select whether to continue the pregnancy or not. The diagnosis is usually made by clinical examination and X-rays. MRI is useful for finding soft-tissue attachments. In the present instance, the X-ray showed that the entire fibula was absent (Fig. 2).

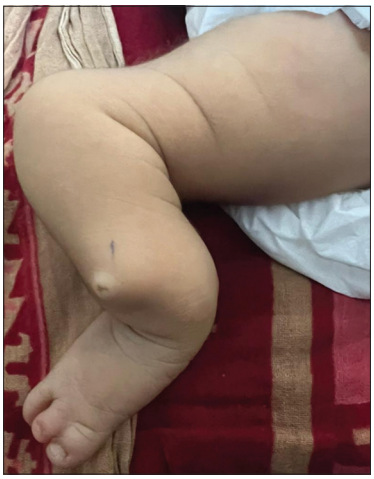

Figure 1: Baby's right leg with congenital fibular hemimelia

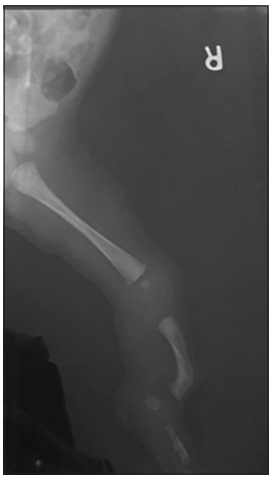

Figure 2: Absence of fibula in X-ray

In tibial hemimelia, the foot is in a varus position, and the fibula will not bow. Whereas in fibular hemimelia, the tibia will be bowed and the foot will be in a valgus position. The tibia is usually articulated with the femur, unlike the fibula. That's why X-ray interpretation is very cautious. Absent phalanges are also common, like in our case. It is associated with proximal focal femoral deficiency and tibial abnormalities. Surgery is the primary form of treatment, particularly limb-lengthening treatments

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such as Ilizarov's method of amputation and contralateral epiphysiodesis [5]. Tomás-Gil *et al*. and the literature suggest early amputation as the treatment of choice for Type II fibular hemimelia [6]. Follow-up prenatal scans must be inspected often for early detection. Total fibular aplasia causes morbidity that lasts a lifetime. Although the literature suggests that limb-length treatments have a higher morbidity rate, innovative methods, like super ankle procedures, are in the horizon.

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