REDUPLICATION OF THE FEMUR

Report of a Case

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Reduplication of bones in the lower limb is relatively common in the foot, but unusual more proximally. Several instances in which three lower extremities were present have been reported (*British Medical Journal* 1898, Deboo 1943, Smillie and Murdoch 1952, Norman 1964), but there has been only one report of reduplication of most of the bones in the lower limb (Srivastara and Garg 1971). Reduplication of the femur alone has not been previously reported.

CASE REPORT

An infant girl, delivered normally, was seen soon after birth. There was marked shortening of the right lower limb, with severe equinovarus deformity of the foot. Radiographs showed reduplication of the femur (Fig. 1). A single bone was present in the lower leg, which articulated neither with the femur nor with the talus; it was therefore presumed to be the fibula. The centres of ossification present in the foot were normal. There was no family history of congenital deformity and the pregnancy had been uneventful and without treatment of the mother by unusual drugs.

The equinovarus deformity of the foot (Fig. 2) was initially treated by stretching and

FIG. 1

FIG. 2

Figure 1—A radiograph taken shortly after birth, showing reduplication of the right femur and absence of the tibia. Figure 2—A photograph of the child at the age of 9 months, before surgical treatment.

splinting. At the age of ten months an extensive medial release with elongation of tendons was performed and the fibula was inserted into the talus. When she was eighteen months old the region of the knee was explored. A small fragment of cartilaginous tibial anlage was found articulating with the lower end of the longer femur. This fragment was removed and the upper end of the fibula was implanted into the lower femoral epiphysis. Histologically the tibial anlage consisted of immature hyaline cartilage of the epiphysial temporary type.

After these operations the child was able to walk with the aid of a pylon. Major reconstructive surgery or possibly ablation will undoubtedly be required when the child becomes old enough to demand a cosmetic appliance.

The latest radiographs, taken at the age of two years, show the following features (Fig. 3). The single acetabulum and head of femur are normal. The femora are joined at the neck and are reduplicated distally, each having a greater and a lesser trochanter. The shorter, accessory femur lies in the medial side of the thigh and has a lower epiphysis. Skeletal survey does not reveal any other deformity.

FIG. 3

A radiograph at the age of 2 years. The acetabulum and the head of the femur are normal. There is reduplication of the femur below the femoral neck.

SUMMARY

1. The case is reported of a girl born by normal delivery whose right lower limb showed reduplication of the femur below the single femoral head.
2. The tibia was absent but the ossific centres in the foot appeared to be normal.

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