CONGENITAL COXA VARA

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In a previous communication it was suggested that congenital coxa vara and the short femur of micromelia were variations of the same congenital anomaly (Campbell Golding, 1938). Eleven patients were then reported, one of whom had been followed over a period of thirteen years. Two other cases have been seen recently and are included in this report (Figs. 3-6).

It is known that the upper shaft of the congenitally short femur, which appears to be absent, is actually formed in cartilage though imperfectly. The radiographic appearances in later life depend upon the extent to which this cartilage is converted to bone—a process which is often incomplete in the femoral neck and sometimes in the subtrochanteric region.

In early months radiographs show only the lower shaft of the femur; there is no evidence of the upper shaft, neck, or upper femoral epiphysis. The upper femoral shaft then ossifies (Fig. 3) but it is not until some time later that the upper femoral epiphysis appears, leaving a broad band of cartilage in the region of the epiphyseal line (Fig. 4). The development of separate areas of ossification within this zone of cartilage gives an appearance of ‘fragmentation’ which has sometimes been mistaken for osteochondritis, and for the appearance of ‘triangular fragments,’ often described in the lower part and sometimes in
Female child born with short right leg. When first seen at the Robert Jones and Agnes Hunt Orthopaedic Hospital, at the age of seven years, there was five inches of shortening; radiographs showed congenital coxa vara (Fig. 6). The cervical deformity was corrected by subtrochanteric osteotomy; thereafter the neck of the femur ossified firmly. By the time the child was aged nine years there was seven inches of shortening (right femur eight inches, left femur fifteen inches, right tibia twelve inches, left tibia twelve inches). The limb was disarticulated through the knee joint, the patella excised and the medial femoral condyle flattened. The child is now aged eleven years and walks well in a light metal, above-knee artificial limb (Sir R. Watson-Jones' case).
the upper part of the femoral neck, which are of no particular importance (Fig. 5). Final ossification of this region is very delayed, weight-bearing meanwhile causing deformity or even complete solution of continuity. A second area of imperfect and delayed ossification may also be found below the trochanters where the shaft is frequently thin, sometimes dense, and the differentiation of medulla and cortex imperfect (Figs. 1–2). Weight-bearing may cause deformity or solution of continuity at this level.

The final results of attempting to walk on the defective support of imperfectly ossified areas of cartilage are: varus deformity of the neck; varus deformity of the subtrochanteric region of the shaft; beaking of the greater trochanter by muscle tension on cartilage and soft bone; and usually increased shortening of the limb. The appearances are very variable because the condition develops slowly over many years; in some cases the deformity is bizarre; but all the features may be explained by the theory that congenital coxa vara is the final form of the congenitally short femur.

REFERENCE