

Congenital dislocation of the knee joint

Congenital knee dislocation is an uncommon neonatal finding. It is a great source of anxiety for parents. Treatment depends on the severity. We present a baby who had knee subluxation requiring conservative treatment.

This baby was born by a normal delivery at 39⁺⁵ weeks following an uneventful pregnancy. She is the parents' second child. Antenatal scans at 8, 14 and 24 weeks were all normal.

At birth, she was noted by the midwife to have a deformity of the left knee. On examination, this turned out to be a hyperextended left knee (genu recurvatum) (FIGURE 1). The angle of the knee in the resting position was about 90°. It was possible to passively flex it to an anatomically straight position. The skin creases were asymmetrical. The tone and movements of the toes were normal. The rest of the newborn examination was normal.

An X-ray revealed normal bone structure and did not reveal any dysplasia. On advice from the local orthopaedic team, conservative treatment was instituted with a plaster to keep the leg in a physiological position.

The baby was referred to the paediatric orthopaedic surgeons. She was diagnosed as having subluxation, but not complete dislocation of her knee joint. Conservative treatment was continued. A hip ultrasound scan is also planned to rule out coexisting hip abnormalities. The baby is now three months old and remains under follow-up by the orthopaedic team.

Congenital dislocation of the knee is an uncommon malformation. The incidence is about 1 in 100,000 i.e. 100 times rarer than developmental dysplasia of the hip (DDH). It is bilateral in one third of cases. It is commonly associated with breech delivery, oligohydramnios, congenital talipes equino varus (35%) and DDH (45%)¹. Other associations include Down's syndrome, arthrogryposis, myelodysplasia spinal abnormalities and Larsen's syndrome¹.

Various attempts at classification of this abnormality have been described – subluxation versus dislocation or Grades I, II and III. The classification of Leveuf and Pais into three separate groups – Type A (Simple genu recurvatum), Type B (Subluxation) and Type C (Dislocation)² is now widely accepted.

The essential anatomical abnormality is a short quadriceps muscle together with subluxation of the hamstring muscles which lie anterior to the axis of knee flexion².

Investigations include X-ray which may show associated bone

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FIGURE 1 Subluxated knee lying at 90° to the normal resting position.

abnormalities. An ultrasound examination is essential and reveals the anatomic structures, their pathomorphology and aids in classification².

Early conservative treatment is recommended as the therapy of choice² and is successful with gentle manipulation, strapping and serial casts if carried out early, i.e. within two to three months^{4,5}. Cases with delayed presentation or which do not respond to conservative treatment need surgery. Surgical treatment may involve lengthening of the quadriceps tendon by V-Y plasty³. Prognosis is most favourable in unilateral cases⁶ and when surgery is performed before two years of age⁴. Delay in treatment may lead to long term instability and stiffness⁴.

References

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Keywords

knee dislocation; congenital condition; subluxation; manipulation

Key points

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1. Congenital knee dislocation may be associated with other problems like developmental dysplasia of the hip.
2. Ultrasound imaging is helpful in management.
3. Early referral and treatment may avoid the need for surgery.