Management of Developmental Dysplasia of the Hip (DDH)

Background:

Developmental dysplasia of the hip (DDH) is an umbrella term used to describe a spectrum of hip abnormalities ranging from a stable hip with mild acetabular dysplasia to more severe dysplasia associated with hip instability which in the worst case results in dislocation of the hip. The prevalence of DDH varies from 1.6-28.5 per 1000 live births depending on the definition and population being studied (1). The incidence is higher in female infants and it affects the left hip more commonly than the right, but is seen bilaterally in 20% of cases (2).

Uncorrected DDH can result in significant morbidity including chronic pain, gait abnormalities and premature osteoarthritis of the hip (1). It accounts for 29% of primary hip replacements in adults <60 years of age (2). Early recognition of this condition is important as the success of conservative treatment falls significantly after 7 weeks of age and it becomes more likely that the child will need surgical correction (2).

Risk Factors for Developmental Dysplasia of the Hip:

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Description</th>
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<tr>
<td>Family history in a first degree relative</td>
<td>Calcaneovalgus foot deformity</td>
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<td>Breech presentation</td>
<td>Congenital knee dislocation</td>
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<td>Oligohydramnios</td>
<td>Neuromuscular conditions</td>
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<td>Multiple pregnancy</td>
<td>Babies with a syndrome</td>
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<td>Congenital Talipes Equinovarus</td>
<td>Plagiocephaly</td>
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Screening:

In the UK all babies are screened clinically for DDH as part of the Newborn and Infant Physical Examination (NIPE), which is performed on babies in the first 72 hours of life and again at 6-8 weeks of age. National guidance also recommends selective ultrasound examination for babies with a family history of hip problems in early life or breech presentation after 36 weeks gestation (3).

Examination of the Newborn Hip:

Inspect the skin creases for any asymmetry. There may be extra creases on the affected side. Check for any discrepancy in leg length the leg would appear shorter on the affected side. Limited hip abduction in flexion (<60 degrees) is one of the most consistent signs of dislocation (4). If the hip is dislocated the Ortolani test can be performed to establish if it is reducible by gently abducting the hip while lifting the leg anteriorly. It is positive if there is a palpable clunk as the head of the femur moves back into the acetabulum. The Barlow test is an assessment of hip stability. It attempts to dislocate the femoral head by gently adducting and flexing the hip to 90 degrees whilst the femur is depressed posteriorly this will cause an unstable hip to dislocate again felt as a clunk (2).

Figure 1 (BMJ): Barlow (left) and Ortolani (right).

If the hips are abnormal on examination please refer the baby to the orthopaedic outpatient clinic using the DDH referral form (available on the portal). The baby will be seen in the next available hip USS clinic on a Thursday afternoon in the Children’s hospital outpatient department. Any treatment required will be started at the same visit.

If the hip examination is normal but the baby has risk factors or associated conditions please refer to orthopaedics using the same referral form. They will be seen a little later at around 4 weeks of age in the baby hip USS clinic.

Resources for parents:


References


Dr Alice Thomas, Miss Clare Carpenter, Dr S Barr. January 2016 to be reviewed January 2019