THE HIP IN THE MOULDED BABY SYNDROME

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The moulded baby syndrome comprises: head moulding (plagiocephaly); pelvic obliquity with unilateral loss of hip abduction in flexion; and occasionally scoliosis, torticollis and bat ears. The hips, however, are radiologically normal and do not require the treatment used in the management of congenital dislocation or dysplasia. A review of 67 hips confirms this finding.

This paper describes an association between head moulding and unilateral limitation of hip abduction in flexion. This loss of movement of the hip suggests congenital dislocation, but the hips are radiologically normal and develop satisfactorily without specific treatment. Although there is mention in the literature (Watson 1971; Dunn 1976) of an association between plagiocephaly (head moulding), bat ears, torticollis, scoliosis and congenital hip dislocation, we have been unable to find a well-documented series which emphasises that restricted hip movement in the moulded baby syndrome is not associated with hip dysplasia or with dislocation and therefore has an excellent prognosis.

We reviewed 67 children with unilateral restriction of hip abduction in flexion associated with plagiocephaly, but in whom the hips were, apart from the restricted movement, quite normal. Although these hips develop normally, we still feel it is essential to maintain a high level of suspicion and that hip radiography is mandatory.

PATIENTS

Between 1967 and 1982 102 infants referred to Queen Mary's Hospital for Children with unilateral restriction of hip abduction in flexion were found to have plagiocephaly. Sixty-seven (40 girls and 27 boys) were available for review. At presentation the infants were aged between 1 and 10 months, usually about 3 months. Unilateral restriction of hip abduction had been detected in each case, either in "well baby clinics" or by a general practitioner during routine hip checks (Fig. 1). There was nothing unusual about the pregnancy or delivery of the affected infants, and there was no family history of hip disorder.

The left hip was involved in 46 infants and the right in 21. Neither the parents nor the referring doctor had noticed the head moulding, which was often slight. It was nevertheless clear, when we saw the infants, that the forehead was flattened and that this flattening was on the same side as the affected hip (Fig. 2). In two infants there was an associated torticollis which resolved with stretching. Five had scoliosis, concave to the side of the limited hip abduction; in all it resolved spontaneously by the age of two years. There were no other significant deformities and no child had bat ears.

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Anteroposterior radiographs were taken of the hips; in all cases the acetabula were considered normal. In some cases, however, the hip on the affected side looked as if it was uncovered; this appearance results from pelvic obliquity, with one hip in abduction and the other in adduction (Fig. 3). It is important that the films should be as well centred as the pelvic obliquity will allow, and this obliquity must be taken into account when the radiograph is being examined.

**TREATMENT AND RESULTS**

Apart from reassuring the parents that all would be well, treatment consisted of stretching the hips gently into abduction in flexion; this was performed by the parents after instruction from the physiotherapist. Supervision was continued until hip abduction in flexion was equal and normal on both sides.

All 67 infants had gained equal hip movement by the age of 18 months.

**DISCUSSION**

Infants with limited abduction of one or both hips should be referred to orthopaedic clinics. Although associated plagiocephaly makes it likely that the hips will develop normally, radiographic examination is mandatory to confirm that they are in fact satisfactory. There was, indeed, one infant, not included in this present series, who was thought on clinical examination to be an example of the moulded baby syndrome, with obvious plagiocephaly and unilateral restriction of hip flexion in abduction. However, in this instance a radiograph did reveal true dysplasia and this hip eventually required a corrective femoral osteotomy (Figs 4 and 5).

In the moulded baby syndrome, spontaneous resolution to complete normality, including full abduction, is to be expected before the child is two years old; possibly the process is aided by simple stretching. Treatment by abduction splintage, adductor tenotomies or plaster immobilisation is quite unnecessary and is in fact overtreatment.

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**REFERENCES**
