OSTEOTOMY FOR UNREDUCED CONGENITAL DISLOCATION
OF THE HIP IN ADULTS

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If adequate examination of all newborn infants is done regularly, congenital dislocation of the hip should theoretically never be seen in the adult. Nevertheless many adults with dislocations untreated or unsuccessfully treated still abound in Canada.

It is well recognised that people who grow up with unreduced congenital dislocation of the hip may have little or no disability. In the Canadian North it has been observed that many Indians go about their business with dislocated hips and have very little trouble. A recent film made in Saskatoon by Dr Stewart Houston (1969) illustrates these points well and warns against over-enthusiastic surgery. I am sure that this is right.

Fig. 1

Fig. 2
Case 1—Bilateral dislocation of the hip treated by displacement osteotomy. There was a good range of movement without pain and a greatly improved gait when last seen three years after surgery.

In the cases to be described, patients came for treatment with four main complaints: 1) pain evidently caused by degenerative changes in false joint; 2) difficulty in walking because of flexion or adduction deformities; 3) low back symptoms because of lumbar lordosis; or 4) in unilateral cases, the effects of pelvic tilt from the discrepancy of leg length.

METHODS OF TREATMENT

Ring (1959) reviewed a total of sixty-two cases from the Royal National Orthopaedic Hospital and other London hospitals in which operation for unreduced dislocation in adults had been done. Ten hips were arthrodesed, mostly after other methods had failed. Cup arthroplasty had been used in twelve, and replacement arthroplasty in five, with little success. High trochanteric osteotomy had improved less than half the cases in which it had been done.

Low osteotomy of Schanz (1922) type had been more successful, especially in previously untreated hips. In some, the head was also excised to produce a Batchelor (1945) or Milch (1955) type of excision arthroplasty.

In this series, the aim has been to do an abduction osteotomy in such a way as to take weight from the false acetabulum and put the line of weight-bearing from the original acetabulum over the femoral shaft.

It is now generally agreed that, in congenital subluxation of the hip needing treatment in adolescence or early adult life, pelvic osteotomy of the Chiari (1955) or Salter (1966) type is the most successful. It may even be the answer in low dislocations.

CASE REPORTS

Case 1—In this thirty-five-year-old woman with rather low bilateral dislocation (Fig. 1) and 40 degrees of fixed flexion, pelvic osteotomy might well have been good treatment. At that time, nine years ago, high corrective osteotomy on both sides (Fig. 2) rather of McMurray...
(1938) type, seemed to be indicated and gave a good result, with mobile and painless hips when she was last seen three years after operation.

Case 2—In this woman of thirty-six years a comparable procedure was done, the patient having bilateral painful hips with marked adduction, flexion and medial rotation deformity (Fig. 3). She had received much treatment, conservative and operative, in the past. Here, fixation after osteotomy was secured by Staples' splines (Fig. 4). Pain was much relieved, and four years later she was walking well, though with a wide-angled gait. She still has poor movement and some residual fixed flexion.

**USE OF NAIL-PLATE**

At that time I felt that a reversed Moore or Jewett nail-plate of 140 to 160 degrees angulation, with the plate attached to the femoral shaft and the nail driven up into the femoral head or the greater trochanter, would maintain a low Schanz osteotomy with good fixation and at the correctly calculated post-osteotomy angle. Fixation of a plate to the trochanter with ordinary screws is usually difficult, and some other methods of holding this type of osteotomy are no more secure.

**CASE REPORT**

Case 3—Figure 5 shows the result in a patient of fifty-nine years with unilateral dislocation treated by osteotomy and reversed nail-plate fixation. The arthritic and painful false joint is shown to be satisfactorily defunctioned, and the limb gained three centimetres in length. She had a stable, mobile and painless hip when last seen seven years after operation.

**OPERATIVE TECHNIQUE**

There are certain difficulties in the procedure which should be recognised. It must be remembered that there is posterior as well as lateral displacement of the head and that osteotomy has therefore to be done in the sagittal as well as in the coronal plane. Because it is hard to impact satisfactorily a reversed blade-plate, there is considerable danger of distraction and therefore of delayed union or non-union at the osteotomy site. In fact, introduction of a cancellous bone graft is advisable.

Because of the difficulty in achieving osteotomy in two planes, lateral rotation deformity is also a common complication, and usually 25 degrees of medial rotation of the distal fragment has to be effected.

If the angle after osteotomy is made too great, three things may happen: firstly, the apex of the osteotomy will impinge on the area of the true acetabulum, often causing pain, especially if a Lorenz “spike” is left. Secondly, a significant degree of genu valgum may result. Thirdly, there will be a decrease in the effective angulation of the opposite pelvic wall (Milch 1942), with apparent shortening on the other side. The osteotomy is probably best done low enough for the blade of the nail-plate to lie firmly in the greater trochanter rather than in the head.
Case 4-Osteotomy with a Jewett nail-plate passed into the femoral head. Excessive valgus angulation and lateral rotation deformity had to be corrected by a further osteotomy (Fig. 8).

Case 4—This fifty-five-year-old man (Fig. 6) had an osteotomy that was somewhat higher than recommended, and the nail-plate of 135 degrees passed into the head, with consequent excessive angulation (Fig. 7). The result was good at first, but he was left with lateral rotation deformity as well as with genu valgum and knee pain. Further operation was necessary to correct the rotation and abduction (Fig. 8). At present he is walking well without support and has a fair range of painless movement five years after the first operation.

Case 5-Unilateral osteotomy, again with a reversed nail-plate into the femoral head, caused over-angulation in this case.

Case 5—In the case of this woman aged fifty-seven years also the nail was passed into the head of the femur (Figs. 9 and 10). For two years she seemed to have a satisfactory result in spite of 10 degrees of genu valgum and 15 degrees of lateral rotation deformity, which both had to be corrected at a second operation. Later, it became evident that non-union had occurred at the first osteotomy, and the patient eventually had an arthrodesis.
Case 6—Bilateral osteotomy using reversed Moore nail-blade-plates (165 degrees angulation). The "Lorenz" spike formed a false joint on the left.

Case 7—Bilateral severe adduction deformities were corrected by osteotomy and fixation by reversed blade-plates. Only the right hip is shown; the left was similar. The loose fragment on the right (arrow Fig. 14) had to be removed at a second operation.
Case 6—This patient, aged twenty-eight, is included by kind permission of Dr J. Huckell, who did bilateral pelvic support osteotomies using reversed Moore nail-plates angled at 165 degrees (Figs. 11 and 12). On the left side lateral rotation deformity necessitated a second osteotomy a year later. The patient is at present walking with sticks. It will be interesting to see whether in future the Lorenz projection, forming a rather good looking false joint on the left, will cause trouble.

Case 7—This girl, at the age of eighteen, had severe bilateral adduction deformity with very limited mobility and an ugly gait. Osteotomy was done on both sides, with Moore plates for fixation (Figs. 13 and 14). As can be seen, a spur developed at the site of osteotomy on the right side and a loose fragment had to be removed a year later. Nine years after the original operation she walks well and has an excellent range of movement in both hips, though she complains of pain from time to time.

SUMMARY

1. In unreduce congenital dislocation of the hip in adults, causing severe symptoms, it seems that there is a place for a calculated abduction type of femoral osteotomy, which should "defunction" a painful false joint. Care should be taken to avoid excessive angulation, which may lead to painful symptoms from contact of the osteotomy apex to the area of the true acetabulum. Genu valgum and lateral rotation deformity are complications, as is failure of union at the osteotomy site.

2. A series of eleven hips in seven patients is reported, in which such an abduction type of osteotomy has been done. Six of these hips have been highly satisfactory. Three have required subsequent operations to correct deformity. Only one has ended up with arthrodesis. In three, results have been only fair. The use of a reversed nail-plate to secure internal fixation is described.

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REFERENCES


