TOTAL HIP REPLACEMENT AFTER UPPER FEMORAL OSTEOTOMY

A CLINICAL REVIEW

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A review was made of the clinical results of 105 total hip replacements in 93 patients who had undergone a previous upper femoral osteotomy for osteoarthritis. At follow-up (average time 4.7 years) 82 per cent of patients were found to be suffering little or no pain, 75 per cent could walk long distances and 90 per cent had more than 100 degrees of combined hip movements. It was concluded that upper femoral osteotomy does not seriously prejudice the outcome of a subsequent total hip replacement.

It is the aim of this clinical review to see if upper femoral osteotomy for osteoarthritis of the hip jeopardises the result of a subsequent total hip replacement.

MATERIAL AND METHOD

One hundred and five hip replacements were reviewed in 33 men and 60 women at Bristol, Oswestry and Stoke-on-Trent. In 12 patients the replacements were bilateral and in the remainder there was an equal distribution of the side involved. Most of the patients were over 60 years of age (average age 63 years) when their hips were replaced, with a span from 43 to 80 years.

All cases had previously undergone intertrochanteric osteotomy for osteoarthritis. They had all been internally fixed and in most cases a Müller or Wainwright spline had been used, producing only moderate displacement.

At subsequent total hip replacement various implants were used: namely Charnley (79), Howse (13), McKee-Farrar (11) and Howse-Arden (2). However, only nine required modified femoral components. The operations were predominantly carried out through the lateral approach (57 per cent) and posterior approach (38 per cent), while the remainder (5 per cent) were effected by the antero-lateral approach; 43 per cent were done without trochanteric osteotomy.

The follow-up was from 1 to 14 years with an average of 4.7 years. Clinical assessment was carried out according to Charnley's (1979) modification of Merle d'Aubigné's classification of pain, walking function and range of movement. The patients were asked to give a subjective assessment of their total hip replacement. Complications before and after operation had been noted together with any further procedures that became necessary.

RESULTS

Eighty-two per cent of patients suffered little or no pain (Fig. 1). Seventy-five per cent could walk long distances, although some had a limp and others required the use of a stick (Fig. 2). Ninety-six per cent had a combined total of more than 100 degrees of flexion, abduction, adduction and rotation (Fig. 3). Ninety per cent of patients were satisfied with the results of treatment. Operative complications were recorded in 18 cases (Table I). Of eight proven infections, four have responded to antibiotic treatment and have no evidence of infection at three, seven, and eight years follow-up respectively. Four other patients required removal of their prosthesis, and one of these still has a discharging sinus.

Table I. Operative complications

<table>
<thead>
<tr>
<th>Complication</th>
<th>Number of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficult screw or spline removal</td>
<td>4</td>
</tr>
<tr>
<td>Broken screws</td>
<td>4</td>
</tr>
<tr>
<td>Difficulty reaming the femur</td>
<td>5</td>
</tr>
<tr>
<td>Shaft broached</td>
<td>2</td>
</tr>
<tr>
<td>Shaft fractured</td>
<td>1</td>
</tr>
<tr>
<td>Calcar fractured</td>
<td>1</td>
</tr>
<tr>
<td>Greater trochanter fractured</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
</tr>
</tbody>
</table>

DISCUSSION

Although the objective results of total hip replacement following upper femoral osteotomy in these patients were not as good as the best for primary total hip replacement (Cupic 1979), 90 per cent of patients had a satisfactory result by their own judgement. Pain relief was good, but the hips were generally stiffer, although sufficiently
mobile in 90 per cent of patients to allow the patient to walk, sit and lie comfortably.

Surgical difficulties were encountered in some patients. Most of the problems were related to reaming the femur and removing the osteotomy fixation device.

The significant infection rate of 8.6 per cent of patients is similar to that reported by Dupont and Charnley (1972) for such cases. Severe limitation of function as a result of pain was experienced by 7.6 per cent of patients. These results compare favourably with other reports for primary total hip replacement (Olsson, Jernberger and Tryggö 1979).

We conclude that upper femoral osteotomy cannot be excluded as a treatment of osteoarthritis of the hip on the basis that it seriously prejudices the quality of a subsequent total hip replacement.

We would like to acknowledge the help and encouragement of the late Gary Hampson who stimulated our interest in this subject.

REFERENCES


