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Socket wall addition for dislocating total hip

Report of two cases

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Two cases of socket wall addition in patients with a recurrent dislocation of a revised total hip prosthesis are described. Both patients have a good result seven and thirteen months after the operation.

Introduction

Dislocations are one of the major complications after total hip arthroplasty, causing prolonged hospitalization and often requiring additional surgical treatment (Ali Khan et al. 1981, Dorr et al. 1983, Woo & Morrey 1982). One of the main predisposing factors is previous hip surgery, especially some form of revision procedure for total hip arthroplasty. Olerud & Karlström (1985) reported promising results after socket wall addition (SWA) (Figure 1) in six patients operated for prosthetic instability.

We report two more cases with good results seven and thirteen months after the operation.

Case 1

A seventy eight year old farmer underwent McKee-Arden hip arthroplasty for coxarthrosis in 1978. The prosthesis loosened and caused severe pain.

A Charnley revision arthroplasty was performed in June 1984 through a posterolateral incision without a trochanteric osteotomy. Both components were slightly retroverted. The hip dislocated postero-superiorly after one month when the patient was sitting on a chair, tying his shoelaces. He dislocated four more times during the following three months, always when he was sitting on a chair. Orthosis treatment was tried, but was not accepted by the patient.

The SWA technique of Olerud & Karlström (1985) was performed in September 1984 to treat the instability. Two fifths of a large LPW socket were used. The SWA extended to the start of the bottom slope of the socket; this size did not seem to interfere with the hip movement. The socket was fixed in postero-superior position with two AO screws (Figure 2). The range of movement was the same as before surgery without impingement and the hip could not be dislocated. The patient was mobilized with full weight bearing on the operated leg.

Thirteen months later the patient had a stable, painfree hip with good range of movement, and he had no fear of further dislocations.

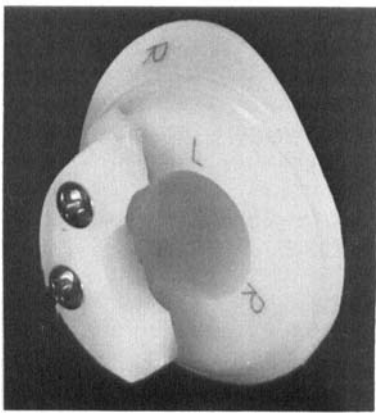

Figure 1. Socket wall addition for posterior and postero-superior dislocations of the right hip.

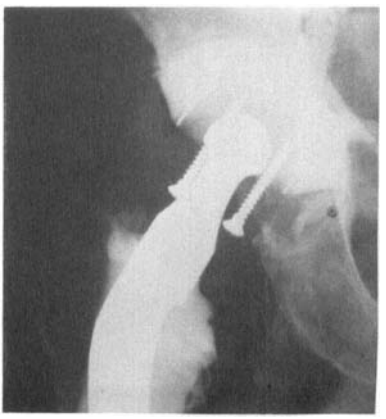

Figure 2. Socket wall addition, Case 1.

Case 2

A seventy five year old woman was operated on for coxarthrosis in 1978 and McKee-Arden arthroplasty was performed. Due to painful loosening and suspected infection, a one stage Charnley revision arthroplasty through a posterolateral incision without trochanteric osteotomy was performed in November 1983. A small flanged LPW socket was used but was slightly retroverted. The femoral stem was in neutral position in both planes. The patient was cutting his toenails in December 1983 when he dislocated postero-superiorly. After the second dislocation in January 1984, an orthosis was tried but was not accepted by the patient. She dislocated three more times during the following year.

A SWA was considered the procedure of choice and performed in March 1985. One third of a small LPW socket was used and fixed in postero-superior position with three screws. To achieve a stable hip, the height of the SWA used caused impingement in maximal external rotation. The external rotation range diminished by about 5 degrees post-operatively.

The postoperative course was smooth. The patient was easily mobilized on the first postoperative day and had no fear of further dislocations seven months postoperatively.

Discussion

Instability after total hip arthroplasty is a multifactorial phenomenon (Ali Khan et al. 1981, Dorr et al. 1983, Lewinnek et al. 1978, Woo & Morrey 1982). One of the main causes of instability is revision surgery (Ali Khan et al. 1981 and Woo & Morrey 1982). To prevent dislocations after revision, Wroblewski designed a special revision cup. Hip brace treatment after relocation gives satisfactory results in selective cases only (Clayton & Thirupathi 1983, Dorr et al. 1983).

Reoperation for prosthetic instability is necessary in about one third of the hips but complications are frequent and the failure rate is high (Ahnfelt et al. 1982, Dorr et al. 1983, Woo & Moorey 1982). Up to one fifth of the cases will continue to dislocate despite all attempts at treatment (Ali Khan et al. 1981).

The SWA technique of Olerud & Karlström (1985) is relatively easy to perform and seems to be safe for the patient if the following precautions are respected. The size and position of the SWA has to be individualized and it should be fixed with two or three screws. With the SWA fixed in the correct position, the hip should be stable and the range of movement the same as before the operation. Impingement has to be avoided if possible as it may cause component loosening and could result in dislocation in the opposite direction. The patient can be reassured that there is no fear of further dislocations. Both of our patients were minimally affected by the operation, easily mobilized and pleased with the outcome.

The SWA technique is the procedure of choice in most cases of prosthetic instability requiring operation.

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