EDITORIAL

Resurfacing arthroplasty of the hip

R. Villar

From Addenbrooke’s Hospital and BUPA Cambridge Lea Hospital, Cambridge, England

The concept of resurfacing the hip joint is not new and is a term that might easily be applied to some of the very early designs of hip arthroplasty such as the ivory hip, the Judet prosthesis and the Smith-Petersen cup. Charnley also attempted the procedure, albeit with polyethylene components. In the 1970s and early 1980s a metal-on-polyethylene design was used with results which were poor. Although recommended for the younger patient, for whom revision could one day be expected, rates of failure of up to 34% were reported at two-and-a-half years. By the mid-1980s many publications had appeared describing the complications and failures of the procedure. Comparisons were made with total hip arthroplasty, although the bias was largely on the side of the latter.

Enthusiasm for resurfacing disappeared although it was felt that the root of the problem may have been the materials used rather than the technique itself and that new materials should be considered. Now, some 20 years on, we are beginning to see the results of this approach with a paper by one of the acknowledged modern day pioneers of the procedure who reports a cumulative survival rate of 99.8% at four years for his metal-on-metal hip resurfacing practice. This is in sharp contrast to the results for the earlier metal-on-polyethylene designs, although the bias was largely on the side of the latter.

Enthusiasm for resurfacing disappeared although it was felt that the root of the problem may have been the materials used rather than the technique itself and that new materials should be considered. Now, some 20 years on, we are beginning to see the results of this approach with a paper by one of the acknowledged modern day pioneers of the procedure who reports a cumulative survival rate of 99.8% at four years for his metal-on-metal hip resurfacing practice. This is in sharp contrast to the results for the earlier metal-on-polyethylene designs, although the bias was largely on the side of the latter.

The evolution of this prosthesis has been bedevilled by media involvement so that patient pressure, rather than orthopaedic study, has dominated hip arthroplasty for a significant period, and, to some extent, this situation still prevails. As well as unfairly polarising orthopaedic opinion, media involvement has not always been to the best advantage of the patient, as the American experience of marrow transplantation for breast cancer showed, when even research fraud was involved. However, common sense is thankfully emerging and results are slowly appearing. Some are very short-term but longer reviews, as in this issue, are now available. The National Institute for Clinical Excellence (NICE) in the United Kingdom has regarded hip resurfacing as a separate technology to total hip replacement. It has now reported on resurfacing and has recommended special training. A further report is promised in 2005. Glyn-Jones et al, with the use of roentgen stereophotogrammetric analysis (RSA), have shown that the cemented femoral component of a Birmingham Hip Resurfacing (Midlands Medical Technologies Ltd, Birmingham, UK) is a stable device at two years after implantation, suggesting that it is likely to perform well in the long term. They are further supported by Kishida et al, again in this issue, who report that the same resurfacing system preserves the bone stock of the proximal femur two years after surgery.

However, despite the attraction of the procedure, unanswered questions still remain. Does it matter if the serum cobalt and chromium levels rise after surgery? If a resurfacing is eventually converted to a total hip replacement, will the long-term results of that procedure be altered in any way? What is the true incidence of avascular necrosis and fracture of the neck of the femur? Are these technical issues or are they a feature of the prostheses used? These questions, and others, will clearly feature in the orthopaedic journals in the future. What is of no doubt however, is that metal-on-metal hip resurfacing arthroplasty has a part to play in modern orthopaedic surgery and that the change from a metal-on-polyethylene design was for the better. The current models of hip resurfacing are a considerable improvement on previous versions. Whether they are better in the long term than a well-established total hip replacement remains to be seen.

R. Villar

References


