

## Correspondence

# Undisplaced femoral neck fracture

## To operate or not to operate?

### To the Editor:

The scientific work of the Department of Orthopedics in Lund is closely followed in the Netherlands. I especially appreciate their studies on femoral neck fracture, as they were recently reported by Strömquist et al. (1992). This nice article raises nevertheless some questions.

1. Secondary displacement after functional treatment of impacted femoral neck fractures occurs in 15 percent. It is, in my view, not permissible to conclude that internal fixation of these fractures is the treatment of choice, because the complication rate is lower. Of course, the secondary instability rate in operated cases is lower than in non-operated patients, but we have to keep in mind that 85 percent of Strömquist's 175 patients with an impacted fracture would have healed without an operation as well! Moreover, the overall mortality after functional treatment (Raaymakers and Marti 1991) is substantially lower (16 percent) than after internal fixation (26 percent), as described by one of the coauthors (Nilsson 1989). Secondary displacement of the impacted femoral neck fracture does not condemn the patient to a (hemi)prosthesis. To my knowledge there is not a single report that a higher nonunion or necrosis rate has to be expected if a secondarily unstable impacted femoral neck fracture is treated with internal fixation.

2. A total of 30 percent healing complications (nonunion + necrosis) in 451 patients with a displaced femoral neck fracture is a very good result, especially because all ages are included. From Table 2, where the age-related healing complications are registered, we cannot distinguish nonunion from avascular necrosis. We know from former publications (Strömquist et al. 1987) and our own experience that necrosis is the problem of younger patients and nonunion especially is found in people of older age. Barnes et al. (1976) showed that nonunion after internal fixation increases with age to over 50 percent in patients over 85 years. The techniques of reduction and fixation have not changed since then, nor has the nonunion rate. Ignoring these generally accepted facts is evidence of "Internal Fixation Fanaticism". The good results in Lund could even be improved if Strömquist and his coworkers could overcome their allergy to arthroplasties. The results of low-friction hemiarthroplasties are

not that bad, if this short-term solution is chosen for the appropriate group of patients, those with a biological age over 75 years. Dislocation of the prosthesis—the main early complication—can be practically eliminated if the anterolateral approach to the hip is chosen.

As regards deterioration of function with time, one has to realize that of a group of unselected patients over 70 years of age with a displaced femoral neck fracture, 60 percent have died within 5 years. The hemi- or total hip prosthesis is, of course, a more expensive implant but it does not play a role anymore since the total costs of the hospital stay have increased so enormously in the last decades.

3. Approaching the European Common Market—Sweden seems to be doing—it is rather tendentious to compare the skills of orthopedic and general surgeons. It is probably true for the Swedish situation. The authors have to realize that in most other European countries either the treatment of hip fractures is in the hands of the orthopedic surgeons only, or the general surgeons have specialized in fracture treatment.

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*To the Editor:*

Dr Raaymakers' review of our paper is thorough and emotional and we appreciate it very much. However, it calls for some comments.

1. "Functional" treatment of impacted femoral neck fractures is an interesting approach to the problem, and secondary displacement of the fracture is the main drawback of the treatment. Reports on conservative treatment of femoral neck fractures mention a failure rate of 5-27 percent (Frandsen 1986, Raaymakers and Marti 1991). Avascular necrosis in healed fractures have been reported to be approximately 15 percent. The most recent report (Hvaal et al. 1992) demonstrated failures in more than half of the cases. It seems important that the good results of Raaymakers and Marti (1991) are reproduced consistently before the method can be adopted on a larger scale; until then internal fixation should be the treatment. Another point is that after internal fixation, immediate full weight-bearing is allowed and encouraged; functional treatment means partial weight-bearing up to eight weeks following the fracture (Raaymakers and Marti 1991), which is cumbersome to the individual patient, especially the elderly.

2. The complication rate in our material is rather constant in all age groups, but, as in previous publications, femoral head collapse dominated among the younger patients and nonunion among the older. The rate of healing complications among survivors did not increase with increasing age, nor did the rate of secondary arthroplasty. Thus, it is difficult to defend the policy of selecting a certain age group for primary arthroplasty on scientific evidence. With due respect to Barnes et al. (1976), one still has to admit that the technical facilities for reduction as well as the methods of internal fixation have improved; the rate of union among survivors over 85 years in our material was 72 percent. This figure, in combination with a 25 percent mortality within the first postoperative year after the hip fracture, would mean that for about 80 percent of the elderly, the arthroplasty operation would not be of benefit. This, to our mind, contradicts primary arthroplasty on an age basis, especially as the results of secondary hip replacement for complications are excellent (Franzén et al. 1989, Nilsson et al. 1989). One group with an inferior prognosis is rheumatics with displaced fractures (Strömquist et al. 1988), and this group we today treat with primary arthroplasty. Further subgroups with an inferior prognosis will hopefully be identified in the future. The results after primary hip arthroplasty for cervical fractures have been disappointing (Diercks and Hollander 1985, Greenough and Jones 1988), and in functional terms, patients with a healed fracture after internal fixation fare better than those with a hip arthroplasty (Nilsson et al. 1991).

We agree with Dr. Raaymakers that the implant cost plays a minor role in femoral neck fracture treatment regarding the total hospital expenses, but it is incontrovertible that prosthetic replacement puts higher demands on the resources (Søreide et al. 1980).

3. The comparison in our manuscript concerns operations performed only by orthopedic specialists, the difference between them being the degree of experience in internal fixation of the femoral neck fractures. The message is that there is a learning curve in the fixation procedure; an increased interest improves the outcome. Furthermore, in Sweden today few femoral neck fractures are operated on by general surgeons, so if we are to join the European Common Market we can do that with our femoral heads held high.

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