

# The Harris-Galante cementless femoral component

## Poor results in 57 hips followed for 3 years

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Between 1986 and 1991, 68 Harris-Galante femoral prostheses were implanted in 63 patients. 53 patients (57 hips) attended for follow-up after a mean of 3.4 (2–6) years. The average Harris Hip Score (HHS) was 39 preoperatively and 81 postoperatively. Only 34 hips were excellent (27) or good (7).

Mid-thigh pain occurred in 30 cases. 10 femoral components were radiographically loose because of osteolysis.

Although 7 cups seemed to be radiographically loose, they probably played only a minor role in the poor overall early clinical results.

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Cementless instead of cemented hip prostheses are commonly used in younger patients in the hope that they will provide better long-term fixation (Callaghan 1992). This optimism now seems to be unfounded (Havelin et al. 1994, 1995). In 1986, we started to use the Harris-Galante cementless femoral stem in patients younger than 65 years of age who had good bone quality. The Mecron cementless screw acetabular component was already in routine use.

We report our early results because they are poor.

### Patients and methods

Between 1986 and 1991, 68 Harris-Galante femoral prostheses were implanted in 63 patients. 53 patients (57 hips) were available for follow-up. There were 32 women (36 hips) and 21 men (21 hips) with an average age of 51 (22–64) years. The indications for operation were arthrosis in 41 hips, femoral head necrosis in 11 and rheumatoid arthritis or ankylosing spondylitis in 5 hips.

17 prostheses were implanted via the direct lateral approach and the remainder via the posterolateral approach. 53 Mecron cups were used, 1 Harris-Galante porous cup, and 3 cemented cups.

A proximal femoral fissure/fracture occurred in 6 cases but, besides delayed mobilization, no specific treatment was necessary. 1 hip was unstable and was immobilized for 6 weeks in a hip-spica. 1 posterior dislocation occurred on the day following discharge; after reduction the hip was immobilized in a plaster of

Paris hip-spica for 6 weeks. There were no postoperative infections.

Following discharge, all patients were routinely seen and radiographically examined at 3 and 6 months postoperatively and thereafter yearly.

All patients were interviewed by one of us (FN) after an average follow-up of 3.4 (2–6.1) years. The HHS was determined and the occurrence of mid-thigh pain was noted. The patients were also asked specifically about groin/buttock pain which may emanate from the acetabular component (Apel et al. 1989, Engh et al. 1990). The preoperative HHS was estimated from details in the notes, supplemented by retrospective information from the patients.

The radiographic evaluation was based on the routine series of postoperative radiographs. We considered the femoral component to be loose if there was subsidence of 5 mm or more or if there was osteolysis of 2 mm or more in 2 or more Gruen zones (Callaghan et al. 1988, Dodge et al. 1991).

The acetabular component was classified as possibly loose, if it had migrated more than 2 mm (Callaghan et al. 1988, Dodge et al. 1991) or angulated 5° or more (Apel et al. 1989) or if there was osteolysis along more than 50% of the contact-surface. We assessed the radiographs independently and without specific knowledge of the clinical evaluation.

### Results

The average HHS was preoperatively 39 (16–61) and

postoperatively 81 (36–100). The results were excellent (HHS 90–100) in 27 hips, good (HHS 80–89) in 7 hips, moderate (HHS 70–79) in 11 hips and poor (HHS < 70) in 12 hips.

30 prostheses were associated with thigh pain: mild in 23, moderate in 5 and severe in 2 hips.

9 of the hips with Mecron cups were associated with groin/buttock pain: mild in 6, moderate in 2 and severe in 1. The outcome in 4 of the 6 patients with a perioperative femur fissure was moderate or poor.

### Radiography

*Stem.* There were no cases of progressive varus angulation or subsidence of 5 mm or more. Minor degrees of subsidence were noticed in 12 cases.

Osteolysis had developed in 19 cases. Osteolysis of at least 2 mm in 2 or more zones occurred in 10 cases. The osteolytic defects were focal, not visible on the initial postoperative radiographs, progressive and associated with scalloping of the endosteal cortex.

*Cup.* The open lateral angle of the Mecron cup decreased by 5° or more in 6 cases. 1 of these cups also showed progressive osteolysis and migration. There was osteolysis around another Mecron cup and a thin radiotranslucent line along less than half of the bone-cement interface of 1 of the 3 cemented cups.

There were no revisions during the follow-up period.

### Discussion

After only 3.4 years, the HHS was moderate or poor in more than one third of our cases. This outcome is similar to that of Kim and Kim (1992) with the same prosthesis but is poor when compared to the 80%–100% excellent or good success rates achieved with other uncemented (e.g., Callaghan et al. 1988, Martell et al. 1993, Sugano et al. 1994) or cemented prostheses (e.g., Ritter and Campbell 1987, Alsema et al. 1994).

Mid-thigh pain is typically associated with cementless hip prostheses and may be caused by instability of the femoral component (Dodge et al. 1991, Campbell et al. 1992, Müller 1992). It occurred in half of our cases, which was similar to that reported by Kim and Kim (1992).

There were no instances of definite (> 5 mm) femoral component subsidence. Even if the limited subsidence or migration which we observed was real, its importance is open to discussion. It is possible that very slow migration can be compatible with a good long-term result (Fowler et al. 1988), whereas early rapid and progressive migration cannot (Freeman and Plan-

te-Bordeneuve 1994, Kärrholm et al. 1994).

Focal femoral osteolysis developed in one third of our cases, a finding similar to that reported by Goetz et al. (1994). Substantial osteolysis, indicating loosening, was observed in 10 of our 57 cases and one should also keep in mind that the incidence of osteolysis will increase with time (Harris 1994). The progressive, focal and scalloped nature of the observed radiolucencies is typical of osteolysis caused by wear particles. The osteolysis occurred in the absence of definite subsidence; this is compatible with the passage of osteolysis stimulating wear particles distally along the smooth parts of the stem, between areas of adequate bone ingrowth into the fiber metal pads.

7 of the 53 Mecron cups were considered loose; a standardized radiographic examination might have revealed a higher incidence. However, when one considers that loosening had no bearing on our clinical results, that the incidence of groin/buttock pain was low and that similar poor HHS were found when a different cup was used (Kim and Kim 1992), it is unlikely that the cup was a major cause of our poor early clinical results.

### Addendum

Since the follow-up examinations, 1 femoral component has been revised because of rapidly progressive thigh pain and severe osteolysis. Another patient is awaiting revision for asymptomatic severe osteolysis. A third patient will soon be reoperated because of severe thigh and groin/buttock pain, but without radiographic changes. 3 of the loose Mecron cups have been revised.

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