Letter to the Editor

THA with the ABG I Prosthesis at 15 Years: Excellent Survival with Minimal Osteolysis

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To the Editor:

I read the paper by Baker et al. [1] with great interest. The authors reported high survival with minimal osteolysis using the ABG-1 prosthesis in total hip arthroplasties (THA). Their 15-year survival rates of the acetabular and femoral components were 86.9% and 98.6%, respectively, and they concluded that the ABG-1 prosthesis continues to show excellent long-term results.

Unfortunately, I cannot confirm these positive findings for the ABG-1 prosthesis, especially regarding the cup. Poor survival of ABG-1 prostheses implanted from 1994 to 1995 was observed, with periprosthetic osteolysis and aseptic cup loosening being leading reasons for revision [7]. The overall 12-year cumulative survival was 0.55 (95% CI, 0.443–0.659), which is much poorer than the survival reported by Baker et al. This also disagrees with reports from other centers [2, 4, 5, 10]. The Swedish hip arthroplasty register's annual 2007 report [13] found an increased risk of revision with ABG-1 cups (1.28 [95% CI, 1.06–1.54], Cox regression). Similarly, the 10-year survivorship was 80.5% ± 4.5%. In contrast, several studies [3, 9, 12] report data consistent with that provided by Baker et al.; therefore, I think the issue deserves careful comment.

Baker et al. reported the experience of one center and a single-surgeon patient group, which could point toward

patient selection and surgical factors that could favor these patients over those receiving surgery performed by several surgeons at several different centers. However, the findings of Herrera et al., in a multicenter study of the ABG-1 prosthesis [9], are consistent with those of Baker et al., suggesting that this variable may not play an important role.

Baker et al. did not report on variables that could influence implant survivorship such as primary diagnosis or cup size. The latter is closely associated with a risk of premature failure, especially in cementless THA, as it determines the thickness of the polyethylene (PE) liner. In earlier studies [6, 7], a thin PE liner increased the risk of premature failure, and patients with a cup < 50 mm (ie, with 5.9 mm maximal PE thickness) had an odds ratio and relative risk for revision of 4.278 and 2.135, respectively. Given these findings one wonders whether the patients in the study by Baker et al. could have received larger cups and thus achieved better survivorship because of this. Presuming selected patients, their conclusions may not be generalizable to a broader ABG-1-patient group and the readers should take selection into consideration.

Baker et al. stated they observed no “high volumes of osteolysis” in their patients, regardless of revision. The reason might lie in a possible role of resistance to osteolysis development in their patients compared with those of Gallo et al. [8] and of others [11, 14].

Readers and authors of any study of the ABG-1 prosthesis should consider the contradictory data regarding survivorship, increased risk of revision, PE wear rate, and osteolysis until the reasons for these discrepancies can be explained. The article by Baker et al. should be read with caution and patients with ABG-1 prostheses should be closely monitored.

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