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Regarding "Metal-backed glenoid implant with polyethylene insert is not a viable long-term therapeutic option"

To the Editor:

We read with much interest the article entitled "Metal-backed glenoid implant with polyethylene insert is not a viable long-term therapeutic option." This article is a retrospective study of 165 total shoulder arthroplasties (TSAs) with a metal-backed implant performed for osteoarthritis between 1994 and 1999. At a mean follow-up of 8.5 years (range, 2-16 years), this study shows a 37% rate of failure for this specific implant. Indeed, as the authors point out, the complication rate in this series is very high. They conclude from their series that the whole concept of a metal-backed glenoid implant with polyethylene insert is not a viable long-term therapeutic option and does not facilitate revision cases. To support their statements, the authors add a review of the literature in their paper. Although references to articles against metal-backed glenoid implants are complete and often relate to older designs,[5,13] numerous references that support the use of metal-backed implants are lacking.[4,7,8,11,12,14]

In addition, they do not provide any criticisms regarding the design of the glenoid implant that was used in their series. Indeed, it has been shown in the literature that a convex-backed glenoid achieves better fixation than a flat-backed implant,[1] and the use of an expansion screw has been proven to be unable to achieve strong initial fixation.[2] Improved survivorships have been described by modifying the original glenoid design.[4,11,14] This suggests that the design of the glenoid is key to the survival of the implant and may explain the variation in the reported survivorship of different metal-backed glenoid implants.

In the present study, wear of the polyethylene insert was observed in 51% of the shoulders with a rate of revision of 37% and a survival rate of 46% at 10 years. These findings are not in agreement with our own experience or with what has been reported in recent publications concerning uncemented metal-backed implants like the SMR (Lima LTO, Udine, Italy) and the BioModular TSR (Biomet, Warsaw, IN, USA), which have been found to have a survival rate of 100% at 6.3 years[3] and 93% at 10 years,[7] respectively, or the Arrow (FH Orthopedics, Mulhouse, France), which has been found to have a revision rate of 5.59% at 38 months.[11] A possible explanation for the high rate of complications observed in this series could be related to the number of biconcave or dysplastic glenoids (B2 or C), which reached 50%. These patients are known to be at risk of recurrent postoperative subluxation, which may lead to glenoid failures.

In their series, the authors were able to perform revision without replacing the implants in only 2 cases. The ease of revision from TSA to reverse shoulder arthroplasty with convertible platform systems has been recognized by several authors,[15,16] including Clitherow et al[9] from the joint registry of New Zealand, Castagna et al[3] with the SMR implant, and Kany et al[10] with the Arrow implant. In this paper, we reported on 16 cases of revisions from TSA with a metal-backed glenoid to reverse shoulder arthroplasty. In 12 of these cases, the revisions were performed without having to remove the glenoid baseplate or humeral stem. This retention rate is much higher than in the paper of Boileau. Therefore, as opposed to what has been described in this article, the concept of a fully convertible universal platform is useful in our experience, allowing easy revisions by only changing the inserts (on both the humeral and glenoid sides). Because the bone on both the glenoid and humeral sides remained untouched during the revision procedures, these were performed in less than an hour with limited blood loss, quicker recovery, and a functional result that can be expected to be similar to that of a primary case.[13,14] On the other hand, the revision of a loose cemented glenoid is often associated with severe glenoid bone loss, making the implantation of a new glenoid implant challenging with an often limited functional result.[6]

We therefore disagree with the statement of the article and find it unjustified to reject the concept of a metal-backed glenoid implant with polyethylene insert based on the failure of one specific implant design.

Disclaimer

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