Letter to the Editor

Letter to the Editor on “Disassociation of a Cold-Welded Bimodular Titanium Femoral Stem by Intraoperative Ice Cooling”

I read with interest the article entitled “Disassociation of a cold-welded bimodular titanium femoral stem by intraoperative ice cooling” by Frandsen et al. [1], and I want to congratulate the authors on a report that deals with the challenging problems of stem, neck, and head modularity in contemporary total hip arthroplasty.

Their unique technical solution should be remembered by all revision surgeons, and I agree with their logical approach to the difficult decision-making of when to remove a well-positioned, well-fixed, bimodular titanium femoral stem. I agree that current information about the Zimmer M/L taper prosthesis with Kinetic Technology (Zimmer Biomet, Warsaw, IN) makes it a candidate for partial revision because (1) the neck is constructed of titanium (Ti) alloy, and although a Ti-Ti interface with the stem may cold-weld [1] or even corrode [2,3], it will likely not lead to an adverse local tissue reaction as there is no cobalt (Co) alloy involved; (2) the design length of this particular modular titanium neck is relatively short and therefore unlikely to break, distinct from longer Ti modular necks that are apt to fracture [4,5]; and (3) usage of a ceramic femoral head at the obverse taper on the neck should diminish corrosion and metal loss [6], and again, without a Co-alloy component in the mix, minimize the risk of adverse local tissue reactions. The decision to revise such a stem is complex [7], but the authors make a very logical argument for revising only the head and neck in their patient’s case.

I would also like to add one observation to the authors’ case report that I think is very important. The case history and prerevision imaging (Figs. 1b and 3b, specifically) show conclusively that the patient had a long-standing gross trunnion failure (GTF) of his neck due to MACC [2,12-14], I think it is critical to monitor all patients with M/L taper stems (Zimmer Biomet, Warsaw, IN) secondary to MACC [2,12-14], I think it is critical to monitor all patients with M/L taper stems (Zimmer Biomet, Warsaw, IN) carefully for evidence of taper corrosion failure.

In summary, thank you for an enlightening case report that not only expands our understanding of failure mechanisms secondary to MACC but also demonstrates a logical, creative method to treat such a failure in this specific patient. I would point out that the case is also the very first report of GTF in this implant, and this failure once again underscores the need to carefully monitor patients with M/L taper stems (Zimmer Biomet, Warsaw, IN) for evidence of taper corrosion failure.

Conflicts of interest

B.J. McGrory receives royalties from Smith & Nephew, Inc., and Innomed, Inc.; is a paid consultant for Smith & Nephew, Inc.; and is a member of medical/orthopaedic publications editorial/governing board of AAHKs.

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5 July 2020
Available online 17 October 2020