

## Greater Trochanteric Fragmentation After Failed Metal-on-Metal Hip Arthroplasty

### To the Editor:

The authors of the recently published case report "Greater Trochanteric Fragmentation After Failed Metal-on-Metal Hip Arthroplasty"<sup>1</sup> describe 2 cases of necrotic bone resorbed after revision of the metal-on-metal hip arthroplasty due to solid pseudotumors with tissue necrosis. In both cases, 2 postoperative dislocations occurred, treated with closed reduction. There are no details about the approach of the previous surgery and of the revision surgery, regarding postoperative measures to avoid several dislocations after revision surgery for a solid pseudotumor.

Moreover, this article highlights the controversy regarding strategies for revision of problematic metal-on-metal hip arthroplasty. In fact, first, paying attention to the soft tissue, besides meticulously removing the reactive bursa and using pulse lavage to clean the wear particles present at the hip level, can play an important preventive role for possible postoperative production of fluid associated with an increased risk of dislocation.

Second, regarding the tribological choice, osteolysis and trochanteric fragmentation are not uncommon as a result of third body wear associated with metal particles wearing out the polyethylene insert. At the time of the third revision in the second case, where "trochanteric fragmentation" is clearly visible on the radiograph, a histological analysis could explain what kind of process was occurring at that moment. The use of a ceramic-on-ceramic bearing couple would be the best choice in case of metallic debris inevitably entering the articulation.

More data and more systematic descriptions of the histopathology after failed metal-on-metal hip arthroplasty are needed to define the problem and develop strategies for proper treatment of these patients.

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### Reply:

We thank Drs Calistri, Van der Straeten, and De Smet for their insightful comments and for the opportunity to provide additional details regarding our case report. For the first case (a male), the primary total hip arthroplasty was performed using an anterolateral approach at another institution and the revision was done via a posterior approach. The patient was made 10% weight bearing for 4 weeks after surgery with posterior hip precautions. For the second case (a female), the primary and first revision were done via the posterior approach. The patient was made 50% weight bearing for 4 weeks after revision with anterior and posterior hip precautions. In both cases, the first dislocation occurred while the patient was attempting to rise from a seated position on a sofa.

Although dislocation is a known complication after revision total hip arthroplasty, the tissue necrosis present at the time of revision may have also contributed to the dislocations that occurred in both cases. We agree that removing the reactive bursa and using pulsatile lavage are important aspects of revision for adverse reactions to metal debris. In the absence of data demonstrating the superiority of ceramic-on-ceramic bearing couples for adverse reactions to metal debris revisions, we elected to replace the metal acetabular bearing surface with cross-linked polyethylene in both cases; however, we agree that ceramic components could have been used. We also agree that more data and systematic descriptions of the histopathology and long-term outcome after failed metal-on-metal hip arthroplasties would be tremendously valuable to define the optimal treatment strategies for these patients.

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### REFERENCE

1. Panichkul P, Fricka KB, Hopper RH Jr, Engh CA Jr. Greater trochanteric fragmentation after failed metal-on-metal hip arthroplasty. *Orthopedics*. 2015; 38(5):e447-e451. doi: 10.3928/01477447-20150504-93