Reply to Letter to the Editor

Aseptic Loosening of Total Hip Arthroplasty

Infection Always Should be Ruled Out

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We thank Dr. Partridge and his colleagues for their letter. They commented, "...the distinction between patients with infection and without infection must be questioned as a large proportion of patients deemed to be correctly diagnosed as having aseptic loosening did not have specimens sent for culture." As we explained [4], before institution of a standard protocol, some patients with aseptic loosening may not have been adequately investigated to rule out periprosthetic joint infection (PJI). The latter explains why intraoperative culture specimens were not sent for some patients. Although their point is valid, it does not detract from the message of the paper. At worst, sending culture specimens for the aseptic cases might have increased the number of "misdiagnosed" aseptic cases adding strength to the message of the article. However, the number of optimal culture specimens is not known. In the recent AAOS Guidelines for Diagnosis of PJI for which a comprehensive literature search was done, Della Valle et al. were not able to address this issue based on evidence [3].

Dr. Partridge and his colleagues also commented, "There is also the likelihood that a proportion of the patients assigned to Group 1 (prosthetic joint infection) on the grounds of definite prosthetic joint infection at the time

of subsequent rerevision actually had infection after their revision surgery rather than representing falsely diagnosed aseptic loosening." We were cognizant regarding the possibility that some of the subsequent infections might have been de novo PJIs and not missed aseptic cases, as we stated in our article. Although plausible, the latter is unlikely as these patients did have abnormal serology, and in some cases synovial cell count, at the time of their index revision.

There currently are no definite diagnostic criteria for PJI [1]. We are unaware of any validated criteria specifying the number of culture specimens required to be positive for the case to qualify as PJI, nor is there a definite criterion that specifies the importance of isolation of organisms from broth. Diagnosis of PJI is based on a combination of criteria that may need to be varied on an individual basis. As reported previously, in as much as 7% of PJI cases one is not able to isolate the infecting organism (culture negative cases) [2]. Thus, reliance on isolation of an organism (positive culture) is not accepted as the gold standard for diagnosis of PJI. We disagree with the last comment in the third paragraph that isolation of an organism from a single culture represents contamination. For example, for a patient with abnormal serology and abnormal synovial cell count parameters in whom an organism is isolated from a single culture—even broth, would the latter result not be considered significant?

Within the confines of manuscript length, we discussed the details pertinent to transport and processing of culture specimens. We recognize that variations in processing culture specimens might have existed but also acknowledge that this is not unique to this cohort or our institution.

We agree that management of patients with PJI requires a team effort. As a center that treats approximately 300 patients with PJI per year, we rely on the expertise of our colleagues

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from infectious disease, microbiology, pharmacy, rehabilitation, and other disciplines to optimize the care of these patients.

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