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Letter to the Editor

Reply to Letter to the Editor: Total Hip Arthroplasty in the Ultrayoung

The Authors' Reply: We thank Call et al. for their comments and for initiating further discussion regarding our recently published article, "Total Hip Arthroplasty in the Ultrayoung" [1]. The expertise regarding women of childbearing age undergoing total hip arthroplasty (THA) they provide is welcomed and encouraged, as it serves as a useful reminder to take extra precautions when pursuing an appropriate clinical treatment course for these patients. It also provides relevant supplemental background information in relation to our study, which primarily reports the demographic profile and short-term clinical outcomes for the relatively rare population of patients aged 30 or younger undergoing primary THA.

While an overwhelming majority of primary THA procedures in the United States are performed to address hip osteoarthritis in the elderly, a limited number of these are performed annually for "ultrayoung" patients $\leq$30 years of age [2]. The opportunity to address hip pathology and provide symptomatic relief for these patients with THA is often overshadowed by concerns over implant longevity [3,4] and increased surgical technical demands [5]. Despite advances in prosthetic design and surgical technique, surgeons remain hesitant to pursue this surgical option for ultrayoung patients due to poorly defined indications and lacking long-term outcomes [6].

Our study population of 40 hips was comprised of mostly female patients (62.5%), with a metal-on-polyethylene (MoP) bearing surface used in a vast majority (90%) of cases based on surgeon preference. An overall revision rate of 7.5% with a mean 2-year follow-up provided encouraging results, prompting our suggestion that the use of implants with contemporary bearing surfaces for the ultrayoung population may portend favorable mid- and long-term outcomes [1].

In light of this contention, Call et al. have suggested that surgeons should maintain a modest amount of implant-specific caution when planning for THA in women of childbearing age. The complication of mechanically assisted crevice corrosion, with subsequent systemic release of cobalt (Co) and chromium (Cr) ions is occasionally seen with use of MoP and metal-on-metal bearings [7]. While not always clinically relevant, the metal ions do carry potential risk of causing toxic, deleterious effects to mother and fetus. This is bolstered by recent investigations at their institution demonstrating high rates of abnormal serum cobalt (Co) levels in patients with MoP-bearing surfaces and identifying that women of childbearing age make up a significant portion of patients undergoing THA [8]. Likewise, they maintain a high level of concern regarding the risk of metal ion transfer with the use of metal-on-metal and MoP bearings, culminating in a firm recommendation against the use of metal femoral heads in THA until trunnion corrosion and fretting are better understood and eliminated, especially in women of childbearing age. They prefer the use of ceramic or oxidized zirconium femoral heads in THA for this population.

We thank the authors for this response, and we agree that careful consideration should be taken for women of childbearing age undergoing THA. While we have yet to encounter or identify any perinatal clinical consequences from the use of MoP bearings in the ultrayoung population, the literature does raise attention to this issue and invites further investigation. This discourse ultimately demonstrates the need for additional experiential data on the topic of THA in the ultrayoung.

Sincerely,
Authors

Conflicts of interest

The authors declare there are no conflicts of interest.

For full disclosure statements refer to https://doi.org/10.1016/j.artd.2023.101278.

Authors' Contributions

B.L. contributed to conceptualization, methodology, and supervision. Z.S. contributed to writing, review, and editing. H.D. contributed to conceptualization and methodology. K.S. contributed to writing, review, and editing. C.C. contributed to data curation. M.M. contributed to conceptualization, data curation, and writing the original draft.

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