Letter to the Editor

Letter to the Editor: Poor Survivorship and Frequent Complications at a Median of 10 Years After Metal-on-Metal Hip Resurfacing Revision

James W. Pritchett MD

To the Editor

The learning curve report from Matharu and colleagues [5] highlights how a workable revision strategy should be included for any adopted procedure. Dr. Leopold expands on this theme in his *Editor's Spotlight* [4].

(RE: Matharu GS, Pandit HG, Murray DW. Poor survivorship and frequent complications at a median of 10 years after metal-on-metal hip resurfacing revision. *Clin Orthop Relat Res*. 2017;47:304–314.)

The author certifies that neither he, nor any members of his immediate family, have any commercial associations (such as consultancies, stock ownership, equity interest, patent/licensing arrangements, etc.) that might pose a conflict of interest in connection with the submitted article.

All ICMJE Conflict of Interest Forms for authors and *Clinical Orthopaedics and Related Research*® editors and board members are on file with the publication and can be viewed on request.

The opinions expressed are those of the writers, and do not reflect the opinion or policy of *CORR*® or The Association of Bone and Joint Surgeons®.

Clinical Orthopaedics and Related Research® neither advocates nor endorses

Large-diameter metal-on-metal (MoM) THA as a MoM hip resurfacing (MoMHR) revision option failed gradually over time, accounting for 11 of the authors' 20 rerevisions. Additionally, revising the femoral head size to 28 mm or 32 mm, and performing seven metal-on-polyethylene total hip replacements when the soft tissues are damaged by a pseudotumor, resulted in five recurrent dislocations with rerevisions. Removing a well-fixed acetabular component resulted in aseptic loosening and rerevisions in two hips [5]. When the authors changed their techniques, MoMHR revision improved to 76% survivorship, closer to their 82% survivorship for their total hip replacements [5].

the use of any treatment, drug, or device. Readers are encouraged to always seek additional information, including FDA approval status, of any drug or device before clinical use.

J. W. Pritchett MD (✉)
Orthopedic Surgery, Wyss Hip and Pelvis
Center, 901 Boren Ave, Seattle,
WA 98104, USA
e-mail: BoneRecon@aol.com

There are other revision methods available. The authors erred in describing my work using a cross-linked polyethylene acetabular component in revision of a metal hip resurfacing by stating that I cement the polyethylene into the MoMHR shell. This is not what I do and it is not recommended. I use a standard two-piece acetabular shell that very closely matches the resurfacing femoral component [9]. The crosslinked liner is larger and the shell is thinner than is used typically for total hip replacement. Hip resurfacing and MoMHR are not synonymous. I, and others [1, 3, 8], have performed polyethylene hip resurfacing for many years and now use highly-crosslinked polyethylene.

The authors also comment on my work using a dual-mobility femoral component with a retained well-fixed and well-oriented MoMHR acetabular component that has limited damage [8]. This mobile-bearing concept is not new. Tripolar femoral prostheses can be used for femoral neck fractures or avascular necrosis after hip resurfacing when the acetabular component is

Letter to the Editor

polyethylene rather than metal. I first used this technique 18 years ago with crosslinked polyethylene and it was used more than 30 years ago with conventional polyethylene [10]. For MoMHR, I use the current dual-mobility prostheses. Several centers now use this method [7].

Matharu and colleagues reported on bias in unicompartmental knee replacement. It is equally important to consider selection, reporting, and measurement bias in hip resurfacing. For example, some analytics report femoral neck fracture is an implant-related failure for resurfacing but a periprosthetic total hip replacement fracture is not [6].

As the *Editor's Spotlight* points out [4], we moved too quickly in adopting large-diameter MoM total hip replacement. We should not make the same mistake by discarding hip resurfacing, which is beneficial for young active patients whose activities and expectations exceed outcomes of total hip replacement [2]. There remains a role for a bone-preserving method that

has a smaller volume of implanted material. Additionally, resurfacing can be performed when the medullary canal is blocked.

References

1. Amstutz HC, Takamura KM, Ebrahimpour E, Le Duff MJ. Highly cross-linked polyethylene in hip resurfacing arthroplasty: long-term follow-up. *Hip Int.* 2015;25:39–43.
2. Barrack RL, Ruh EL, Berend ME, Della Valle CJ, Engh CA Jr, Parvizi J, Clohisy JC, Nunley RM. Do young, active patients perceive advantages after surface replacement compared to cementless total hip arthroplasty? *Clin Orthop Relat Res.* 2013;471:3803–3813.
3. Buechel FF Sr, Pappas MJ. A metal/ultrahigh-molecular-weight polyethylene cementless surface replacement. *Semin Arthroplasty.* 2011;22:66–74.
4. Leopold SS. Editor's Spotlight/Take 5: Poor survivorship and frequent complications at a median of 10 years after metal-on-metal hip resurfacing revision. *Clin Orthop Relat Res.* 2017;475:300–303.
5. Matharu GS, Pandit HG, Murray DW. Poor survivorship and frequent complications at a median of 10 years after metal-on-metal hip resurfacing revision. *Clin Orthop Relat Res.* 2017;47:304–314.
6. Murray DW, Liddle AD, Judge A, Pandit H. Bias and unicompartmental knee arthroplasty. *Bone Joint J.* 2017;99B:12–15.
7. Plummer DR, Botero HG, Berend KR, Pritchett JW, Lombardi AV, Della Valle CJ. Salvage of monoblock metal-on-metal acetabular components using a dual-mobility bearing. *J Arthroplasty.* 2016 31:846–849.
8. Pritchett JW. Hip resurfacing using highly cross-linked polyethylene: prospective study results at 8.5 years. *J Arthroplasty.* 2016;31:2203–2208.
9. Pritchett JW. One-component revision of failed resurfacing from an adverse reaction to metal wear debris. *J Arthroplasty.* 2014;29:219–224.
10. Scheerlinck T, Casteleyn PP. “Tripolar” hip arthroplasty for failed hip resurfacing: nineteen years follow-up. *Acta Orthop Belg.* 2001;67:407–411.