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CORR Insights

CORR Insights®: What Is the Rerevision Rate After Revising a Hip Resurfacing Arthroplasty? Analysis From the AOANJRR

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Where Are We Now?

Hip resurfacing arthroplasty has been proposed as an alternative to standard THA for young adults with advanced osteoarthritis. There now exists good evidence to demonstrate excellent short-term functional results and lower dislocation rates compared to standard THA. However, the analysis of national joint registries [3, 5] revealed higher revision rates for hip resurfacing arthroplasty devices, notably metal-on-metal (MoM) bearings in women, compared with THA devices. To date, we have few data to guide our choices regarding the right technical choices (such as implant selection) or to inform our prognostic estimates when considering the revision of a failed hip resurfacing arthroplasty. The current study by Wong and colleagues attempts to evaluate the rerevision rate for hip resurfacing arthroplasty revisions, with a focus on whether the acetabular component alone, or both the acetabular and femoral components were revised. The authors analyzed the Australian Orthopaedic Association National Joint Registry and reported a high cumulative risk of rerevision at 10 years, with the most common causes being aseptic loosening/lysis, metal related pathology, infection and THA dislocation. Compared to acetabular-only or femoral-only revisions, revision of both components resulted in even higher failure rates, reaching 40% at 10 years. Researchers could not detect a difference in the rerevision rate between the bearing surfaces used for revision.

The work by Wong and colleagues offers innovative and important data, showing that the conversion of a hip resurfacing arthroplasty to a THA is associated with a high-risk of rerevision, with no clear superiority of either bearing surface. This study is limited by its observational nature, inherent to all registry or database analysis, which does not take into account epidemiological, functional and technical variables.

Where Do We Need To Go?

The current study tends to confirm that revision of a hip resurfacing

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arthroplasty to a THA yields results inferior to those expected from primary THA, both in terms of complications and survivorship. A recent literature review [4] found a higher risk of revision of reoperation or revision among MoM hip resurfacing arthroplasties compared to THA, even if the discontinuation of hip resurfacing arthroplasty devices with suboptimal design decreased the number of failures. Globally, the average time to revision remained consistently lower for hip resurfacing arthroplasty than for THA. Taken together, these observations challenge the long-term clinical benefit of hip resurfacing arthroplasty, notably MoM hip resurfacing arthroplasty, for young patients. At this point, the question we need to answer is whether THA following a hip resurfacing arthroplasty performs as well as a standard revised THA. Data from the literature is scarce, and results are somehow contradictory [1, 2]. Extensive débridement and change to nonmetal bearing implants as recommended in revision of adverse reaction to metallic debris regularly drives poor results [1]. Conversely, Gross et al. [2] showed that a near 97% survivorship could be expected 5 years after revision, with most repeat revisions occurring in the group revised for acetabular loosening. Interestingly, these authors recommended a limited débridement in cases of adverse local tissue reactions, in association with a correct repositioning of the acetabular component and the use of a large metal bearing. Therefore, the assessment of hip resurfacing arthroplasty revision has to provide clear answers with regards to expected postoperative function, specific complications, survivorship of the revised implants, and costs. Importantly, answers should be stratified according to the cause of revision.

How Do We Get There?

The results of the study by Wong and colleagues highlight the difficulty encountered when attempting to report accurate clinical data from a registry analysis. There is a need for more prospective and detailed clinical evidence addressing the long-term benefits of revision hip resurfacing arthroplasty. Specifically, a prospective evaluation of hip resurfacing arthroplasty revisions needs to be created. In order to achieve adequate statistical power, large patient cohort will need to be followed, possibly recruited in several specialized centers. Ideally, this study should be comparative, using a match-paired group of revised THAs as a control. Patient characteristics, technical choices, functional results, as well as complications and reoperations should be thoroughly collected in each arm of such a study.

It is my hope that national and international registries will be accurate enough in the near future to precisely identify factors associated with hip resurfacing arthroplasty revision failures. Until then, the onus will be on controlled long-term followup studies from specialized centers to develop guidelines for the management of hip resurfacing arthroplasty failures.

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