Revision of Monoblock MoM Total Hip Arthroplasty – Is There a Place for Dual Mobility Without Cup Extraction?

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Introduction: High complication rates have been reported when monoblock metal on metal (MoM) hips are revised. Complications include aseptic loosening of the revised cup, extraction induced acetabular fracture and dissociation as well as instability and infection. One strategy in monoblock MoM hips requiring revision is conversion to a dual mobility polyethylene bearing without cup extraction. We asked whether this strategy had a lower complication rate then formal acetabular revision.

Methods: Review of our institution's TJR identified 34 patients who underwent revisions of monoblock MoM THAs to a dual mobility construct between January 2012 and December 2014. Mean patient age was 64 (range, 27-86), and 65% were women. No hips were lost to follow-up. All hips met inclusion criteria which included a cementless, non-modular MoM implant with revision to a dual mobility construct. Major complications including instability, infection, aseptic loosening, and wound complication were documented and compared to a group of patients who had formal acetabular revision of a monoblock MoM component.

Results: Of 34 patients undergoing dual mobility revision, there was 1 early complication – instability requiring formal acetabular revision (3%). Of the 114 patients who underwent formal acetabular revision, there were 28 early complications (20%). Complications included aseptic loosening, deep infection, dislocation, acetabular fracture, superficial infection, infected hematoma, hematoma, and delayed wound healing.

Conclusion: Dual mobility is a viable option for treatment of failed monoblock metal on metal THA. Early complications are significantly lower (3% vs 20%) when compared with complete acetabular revision. Longer follow up is needed to demonstrate the effectiveness of these articulations. This technique is only appropriate in fully hemispheric monoblock cups. This technique should not be used in cups that are less than a hemisphere with a sharp inner rim or in cups in poor position that could lead to edge loading.