Modular Dual Mobility Total Hip Arthroplasty, Our Experience

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INTRODUCTION:

Modular Dual Mobility (MDM) Total Hip Arthroplasty (THA) is used in both complex primary and revision hip arthroplasty surgery to minimize the risk of dislocations. The aim of this study was to evaluate the outcome of MDM THA in complex THA cases in our arthroplasty unit.

METHODS:

This was a retrospective study with prospectively collected data between January 2019 and March 2021.

RESULTS:

There were 58 MDM THA performed in 57 patients during this period. There were 36 females and 21 males. The mean age was 68.9 (range, 23-90) years. The mean follow up was 18.2 (range, 12-35) months.

Indication of surgery	Number
High risk femoral neck fractures (ie. Stiff Spine, Neurological Problems)	37
Complex Primary THA	13
Revision Hip Surgery	8

Three patients sustained a dislocation (5.2%). Two of them were due to an infection within 4 weeks of surgery. Both patients had a one stage revision to a cemented antibiotic loaded capture cup. The other patient did not want any surgical intervention and opted to live with a chronically dislocated THA. This patient had a MDM THA after a delayed presentation with a chronically dislocated native hip post trauma. One patient developed aseptic loosening after a third revision THA for metalosis.

The mean post - op Oxford Hip Score was 44 (range, 11-48). Three patients (5.2%) were dead at final follow up.

DISCUSSIONS:

3D- printed patient specific instrumentation, navigation and robotic techniques are used to ensure proper placement of acetabular cup to prevent dislocations. These evolving technologies bear cost and takes time. As an alternative, the use of MDM could be an option for selected cases.

Mid-term outcome of implant survival and clinical performance using modern MDM has shown satisfactory results. Long term outcome of adverse reaction to metal debris remains a concern (1).

CONCLUSION:

Our study shows that MDM THA is a viable option for both complex primary and revision hip arthroplasty surgery. A study to evaluate long term outcome of implant survival is required.

REFERENCES:

1. Pai, FY., Ma, HH., Chou, TF.A. *et al.* Risk factors and modes of failure in the modern dual mobility implant. A systematic review and meta-analysis. *BMC Musculoskelet Disord* **22,** 541 (2021)