

EFORT Abstract Submission

Lower limb

Hip

EFORT12-1221

Cementless total hip arthroplasty with large diameter metal-on-metal heads– short term survivorship of 8,059 hips from the Finnish Arthroplasty Register

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INTRODUCTION: Population-based register data from the National Joint Register of Australia and England and Wales have revealed that the mid-term outcome of cementless large diameter head metal-on-metal total hip arthroplasty is inferior to that of conventional cemented metal on polyethylene total hip arthroplasty.

OBJECTIVES: Cementless implants with large diameter head metal on metal bearing surfaces (LDH MoM) have gained increasing popularity during the last few years in hope to reduce wear and osteolysis. LDH MoM THAs are supposed to have also other advantages over conventional THA like increased range of motion to impingement and low dislocation rate. These advantages are, however, only theoretical, as evidence from clinical trials is lacking. The first population-based reports of the short-term survival of cementless LDH MoM THAs have been poor¹⁰. There has been a variety of early complications like periprosthetic fractures and adverse reactions to metal debris (ARMD).

Cementless LDH MoM THAs have been widely used in Finland. The aim of our study was to analyse the early outcome of cementless LDH MoM THAs and compare it to that of conventional cemented THA based on data from the Finnish Arthroplasty Register.

METHODS: Based on data extracted from the Finnish Arthroplasty Register, the risk of revision of 8,059 cementless large diameter head metal-on-metal total hip arthroplasties performed over 2002-2009 was analyzed using Cox regression model. The revision risk of these hips was compared to that for 16,978 cemented metal on polyethylene total hip arthroplasties performed over the same time period.

RESULTS: In the Cox regression analysis, there was no difference in revision risks between cementless large diameter head metal-on-metal total hip arthroplasty and cemented metal on polyethylene total hip arthroplasty (RR 0.90, CI 0.74-1.10; p=0.3). However, in female patients aged 55 years or more, cementless large diameter head metal-on-metal total hip replacements showed a significantly increased risk of revision as compared to cemented total hip replacements (RR 1.33, CI 1.04-1.70). Compared to the reference implant in the present study (cementless Synergy stem combined with BHR cup) the cementless CLS stem combined with Durom cup had a 2.9-fold (95% CI 1.17-6.90) increased risk of revision.

CONCLUSION: We found that cementless large diameter head metal-on-metal total hip arthroplasty had comparable short-term survivorship with cemented total hip arthroplasty at a nation-wide level. However, in female patients aged 55 years or more, cementless large diameter head metal-on-metal total hip arthroplasty showed inferior results. Further, implant design had an influence on revision rates.

Disclosure of Interest: None Declared