

**OL157****IS CEMENTLESS CALCAR-GUIDED SHORT-STEM THA A SAFE OPTION IN PATIENTS WITH ONFH? MIGRATION ANALYSIS OF THE OPTIMYS STEM USING MID-TERM EBRA-FCA DATA**

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**Background:** The indication of ONFH treated with short-stem THA is still controversially discussed at the present time. The potential extension of the necrotic areal and bone marrow edema in metaphyseal bone may result in compromised primary or secondary stability. Early implant migration is considered predictive of subsequent aseptic loosening.

**Objectives:** Migration analysis of a modern, calcar-guided short stem for ONFH in a mid-term follow-up.

**Methods:** At a mean follow-up of 48.1 months, a migration analysis of 45 calcar-guided short stems (optimys, Mathys Ltd Bettlach), implanted between 2011 and 2015 in 40 patients with ONFH was performed using "Einzel-Bild-Roentgen analysis" (EBRA-FCA). Full weight-bearing was allowed immediately after the operation. The ONFH were classified using ARCO stages. The patients were divided into groups according to gender, age, body weight and BMI. Complications and revisions were documented.

**Results:** Of the 45 hips included, six were classified ARCO III and 39 ARCO IV. At mid-term the mean axial migration was 1.56 mm (SD 1.77 mm). There were no statistically significant differences between the ARCO stages (2.78 vs 1.37,  $p=0.069$ ). Significantly increased axial migration was observed in male patients (2.11 mm; SD 1.92 mm,  $p = 0.030$ ) and a tendency was observed in overweight patients (2.03 mm; SD 1.87 mm,  $p = 0.098$ ). No differences were found with regard to age and BMI. In the entire collective, no revision surgery had to be performed so far.

**Discussion:** The results indicate a migration pattern comparable to those previously published in patients with primary osteoarthritis. Initial migration under full load is followed by subsequent stabilization in the metaphyseal femur. Male and overweight patients showed an increased initial migration, although the increase in male patients may be due to the different weight distribution.

**Conclusion:** The optimys stem is a safe option in the treatment of patients with ONFH. The survival rate of 100% at mid-term is remarkable. Long-term results are obligatory.

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