MIGRATION PATTERN OF A SHORT UNCEMENTED HIP STEM WITH OR WITHOUT COLLAR

A RAMDOMIZED, CONTROLLED RSA STUDY WITH 2 YEARS FOLLOW-UP

Erik Weber, Martin Sundberg and Gunnar Flivik

Department of Orthopedics, Skåne University Hospital, Clinical Sciences, Lund University, Lund, Sweden
email: gunnar.flivik@med.lu.se

INTRODUCTION

The Furlong Evolution is a short, uncemented femoral stem, which in terms of design, is based on its precursors; the well-proven Furlong HAC, and the recently introduced Furlong Active. The Evolution stem has several new design features to facilitate easier insertion and possible preservation of bone stock by primarily anchoring to the metaphysis of the femur. It is available with or without a collar (figure 1). We have evaluated the migration pattern of the collarless versus the collar-fitted version of the stem in a randomized, controlled trial over 2 years with RSA.

METHODS

50 patients with primary osteoarthritis were randomized to receive either the collar-fitted or the collarless stem. The patients underwent repeated RSA examinations (0, 3, 12, 24 months), conventional radiography and filled out both hip-specific (HOOS) and general health (EQ5D) questionnaires.

RESULTS AND DISCUSSION

Both stem types exhibit a similar migration pattern without any statistically significant differences. The mean subsidence was 0.69 mm for the collarless stem and 0.58 mm for the collared (figure 2) whereas the mean retroversion was 0.96° and 0.71° respectively (figure 3). The migration was confined to the first 3 postoperative months where after the stems seemed to have stabilized, suggesting good osseointegration. Both stem types showed excellent clinical and radiographical results.

CONCLUSIONS

The Evolution stem with or without collar show no sign of unfavourable migration. The results suggest that the new design features do not compromise osseointegration, and the migration pattern is similar to that of its precursors with stabilization within 3 months [1, 2].

REFERENCES

1. Weber E, et al., *Acta Orthop*, **85** (6):556-561, 2014.
2. Simpsons DJ, et al., *JBJS(Br)*, **92** (10):1356-1362, 2010

Figure 1: The Evolution stem without (left) and with a collar (right)

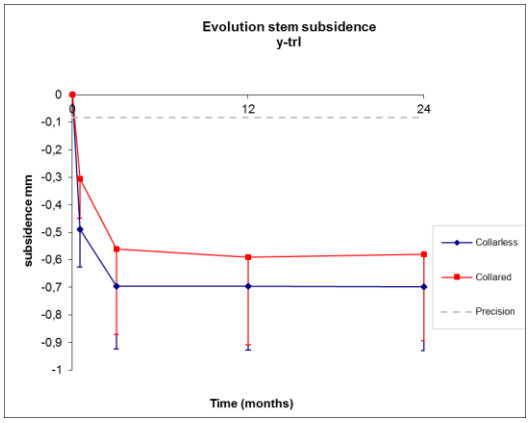

Figure 2: Mean stem subsidence with CI

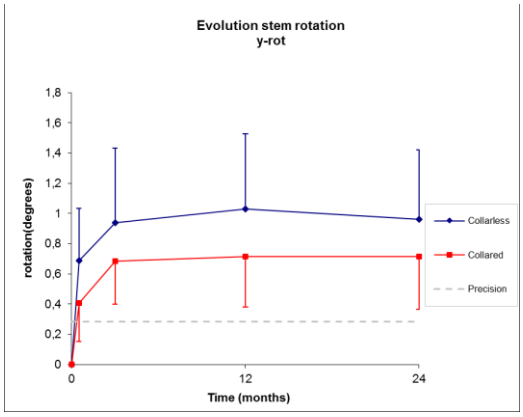

Figure 3: Mean stem rotation with CI