

Clinical outcome after total hip arthroplasty with a short hip stem in obese patients

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INTRODUCTION

Short hip stems become more and more popular because they may preserve bone and soft tissue. Obesity can increase the risk for perioperative complications and increases the demand for the surgeon. It is not yet known whether short stems are suitable for obese patients.

METHODS

- Data were prospectively collected peri- and postoperatively up to 24 months.
- Patients were operated in 5 clinics (2 in Switzerland and 3 in Germany)
- All patients received the optimys short stem
- Patients were divided into 3 BMI classes

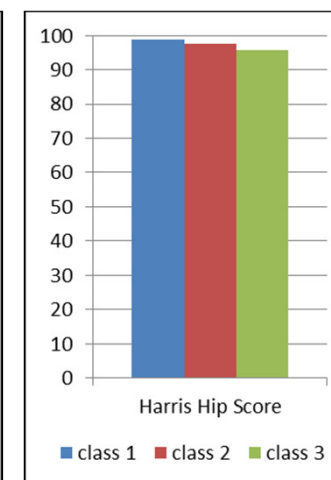
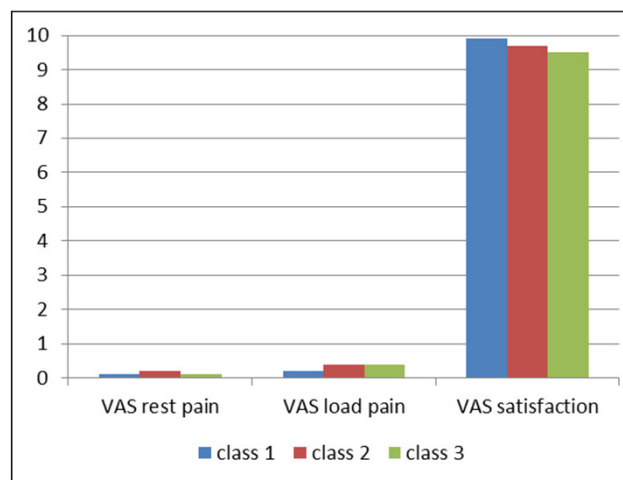
RESULTS

%	Class 1	Class 2	Class 3
Charney Score A / B / C	47.9 / 45.1 / 6.9	53.1 / 42.0 / 4.8	44.7 / 44.7 / 10.6
Diagnosis			
Primary osteoarthritis	72.9	78.3	73.5
Secondary osteoarthritis	13.9	9.7	13.6
Dysplasia	5.6	5.3	7.6
Approach anterolateral	77.1	74.4	78.8
MIS technique performed	97.2	93.7	94.7
Duration of surgery (min)	49.9	53.4	60.6
Standard vs lateral stem	50.0 / 50.0	40.6 / 59.4	47.0 / 53.0

Patients

Class	BMI	N	Age Mean (range)	Gender f/m%	
1	< 25	normal weight	144	66.7 (28-91)	62.5 / 37.5
2	25 – 30	over weight	207	65.9 (36-88)	41.5 / 58.5
3	> 30	obese	132	62.3 (33-87)	56.1 / 43.9
Overall			483	65.1 (28-91)	51.8 / 48.2

Clinical outcome after 24 months



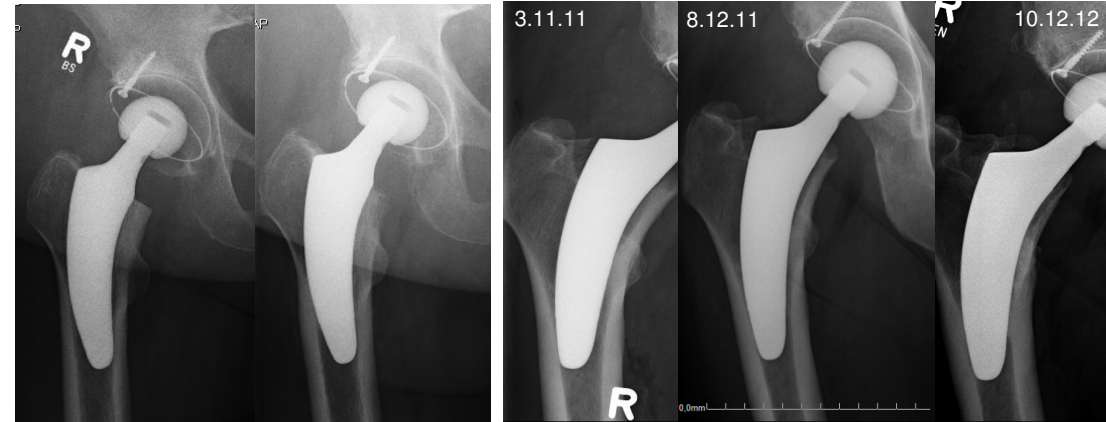
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Complications and revisions

%	Class 1	Class 2	Class 3
Intraop. complications			
None	95.1	96.6	95.5
Fracture of femur or trochanter	1.4	1.5	1.6
Postop. complications			
Haematoma / seroma	0.7	3.4	3.0
Wound healing disorder	0.0	0.5	0.8
Infection with inlay revision	0.0	0.5	0.8
Aseptic loosening	0.0	0.0	0.8
Mayor systemic compl.	0.0	0.0	2.5
Stem revision			
Aseptic loosening	0.0	0.0	0.8
Periprosthetic fracture	0.0	0.5	0.0



Slight painless hypertrophy Zone 3 and 5 after 2 years

Subsidence in the first month, stable situation thereafter

Radiological outcome

	Class 1	Class 2	Class 3
Stem subsidence only first three months, stable thereafter			
%	2.8	3.4	2.3
Range (mm)	1 - 3	1 - 6	3 - 4
Hypertrophy Zone 3 and/or 5			
%	2.0	3.8	3.8

DISCUSSION

- No stem related problems were detected. The stem related results are comparable in all classes.
- Overweight and obese patients have an increased risk for the development of adverse events such as wound healing, infections and systemic complications.
- No significant differences between the classes respective the clinical outcome.
- No significant differences in radiologic findings between the groups, good stability of the implant

CONCLUSION

- Two-year results of the evaluated short stem are promising and comparable in the three weight classes. They go along with the results reported in literature evaluating the outcome of THA in obese patients. Wound healing and infections remain the main problem after these surgeries.
- However, further follow up and larger numbers of patients will be necessary to prove the longevity of this implant in obese patients.

Literature:

Bieger R. et al. Biomechanics of a short stem: in vitro primary stability and stress shielding of a conservative cementless hip stem. J Orthop Res. 2013 Aug; 31(8): 1180-6; Bryan D. Springer et al. Obesity and total joint arthroplasty, a literature based review. The journal of arthroplasty 2013; 28: 714-721; Haverkamp D. et al. Obesity in THA – does it really matter? A meta analysis. Acta Orthop 2011; 82(4): 417-422; Huddleston J.I. et al. Age and Obesity are risk factors for adverse events after THA. Clin Orthop Relat Res 2012; 470: 490-496; Mai S. et al. Erfahrungsbericht über 2 Jahre Anwendung des Kurzschachts optimys. OUP 2013; 2(4):180-184