

tests, Fisher's exact test and Pearson's χ^2 tests were also used to compare results. A p value less than 0.05 indicated a significantly statistical difference.

Results

There was no significant difference in baseline characteristics of the three groups.

A hemiarthroplasty via an anterior minimal invasive approach produced 12.5 g/L less blood loss per case ($p < 0.0001$) which also resulted in a significant decrease in transfusion rate ($p < 0.0001$).

The incidence of pulmonary embolism (PE) by hemiarthroplasty through an anterior approach was significantly lower ($p < 0.03$).

The anterior approach significantly decreased the incidence of acquiring a deep venous thrombosis (DVT) ($p < 0.001$). Patients undergoing a hemiarthroplasty via an anterior approach took less time to walk 20 meters after their operation ($p < 0.0001$) and had a shorter time in hospital ($p < 0.0001$). There was no statistical difference in outcome parameters when comparing cases performed by registrars to that of visiting medical officers. There was no difference in mortality between the anterior (7.5%) approach group and that of the other approaches (5.2%).

Conclusion

Our review data strongly suggests that hip hemiarthroplasty performed by an anterior approach can reduce blood loss, reduce length of stay in hospital, decrease thromboembolic events, and expedite short term regain of mobility. These benefits may result in significant cost savings to the health system.

VERSAFITCUP DOUBLE MOBILITY CUP: OUTCOMES AT A MEAN FOLLOW-UP OF 5 YEARS

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Introduction

The concept of a dual mobility cup had been developed to minimize risk of dislocation after total hip replacement. Early results, with the first generation of dual mobility, had low dislocation rate (0 to 0.29%) but showed 2 causes of failure in the mid-term: early loosening and wear of the polyethylene liner. The goal of the current investigation is to confirm the efficacy of a new generation dual mobility cup (the Versafitcup DM, Medacta International SA, Switzerland) to prevent the occurrence of luxation and to

verify the absence of loosening or early wear.

Methods

A consecutive series of 121 subjects who underwent primary total hip replacements with a double mobility cup between March 2003 and December 2005 was clinically and radiographically reviewed at a mean follow-up of 5 years after surgery.

Out of 121 cases, 107 have been reviewed, 11 died and 3 were lost to follow-up. Mean age at surgery was 75 years (54 to 85). Osteoarthritis was the primary diagnosis (88,8%); rheumatoid arthritis (3,7%), rapid destructive osteoarthritis (3,7%), osteonecrosis (2,8%) and femoral neck fracture (0,9%). All surgeries were performed through a posterolateral approach.

Results

The mean pre-operative Harris Hip Score was $49,2 \pm 21,2$ and the post-operative, at a mean follow-up of 5 years after surgery, was $91,9 \pm 9,2$.

The radiographic assessment highlighted no critical radiolucent lines around the cup and no osteolysis. No dislocation of the prosthesis or intra-prosthetic dislocation occurred. One case of acetabular and femoral component revision was necessary due to a deep infection. The survival rate for the acetabular component at 5 years is 99,2% using revision for any reason as the endpoint and 100% excluding septic failures.

Discussion and Conclusion

This study confirms that double mobility cup can prevent the risk of dislocation with a 0% of dislocation rate in this series. The elliptical shape of the Versafitcup DM, together with the presence of equatorial macrostructures and a hydroxyapatite coating, provides an excellent press-fit, a very good primary stability and optimal osteointegration. The risk of wear is reduced by the concave surface of the cup which is mirror polished without holes or pins and by the quality and thickness of the polyethylene liner.

THE MINIMAX ANATOMICAL STEM: AN INNOVATIVE AND VERSATILE SOLUTION FOR HIP ARTHROPLASTY (CLINICAL AND RADIOLOGICAL EVALUATION AND CASES REPORT)

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Introduction

The MiniMAX (Medacta International SA, Switzerland) is an anatomical cementless, HA coated stem. The sagittal

double curved design and frontal curved shape with metaphyseal press fit and the thin tip, facilitates the insertion through a small incision. The methaphyseal area is designed with the best fit and fill to restore physiological loads and guarantees a good rotational stability thanks to the presence of macrostructures. The aim of the current clinical study is to evaluate the performance and the security of MiniMAX stem, coupled with Versafitcup acetabular component (Medacta International, SA Switzerland), clinically through HHS and R.O.M. and radiologically evaluating x-ray. The Kaplan Meier survival rate of the stem has been computed considering any reason and aseptic loosening as endpoint.

Material and Methods

135 patients (144 procedures) underwent a primary THA, whereas 2 patients (2 procedures) underwent revision surgery. Indications for surgery include mainly primary coxarthrosis (86.8 %), as well as particular cases, dysplastic patients or patients with undersized stem with tip effect femur requiring revision surgery 93% of surgeries were performed using an Anterior Minimally Invasive Surgery (AMIS) with the aid of the AMIS Mobile Leg Positioner (Medacta International, SA Switzerland), 1% realised using posterolateral minimal invasive technique and 6% performed through a conventional approach.

Results

At a mean follow-up of 37 months, 135 patients (144 procedures) were evaluated, 2 patients died, 1 from senectus and 1 from a tumor. Overall a great improvement in mobility was reported for all patients, and most specifically, no one reported thigh pain. An excellent improvement was shown both in R.O.M. from 84.2° to 123.8° (in primary group) and from 85° to 130° (revision group) and in HHS from 41.9 to 96.9 (primary group) and from 36 to 86.5 (revision group). From radiological analysis, all prosthesis were shown to be fixed and stable, with no signs of critical radiolucencies.

4 patients underwent revision for reasons unrelated to the implant: suspected infection 1 month after surgery (1); definitive infection occurred 1 year post-surgery (1) trauma which caused a femoral periprosthetic fracture after 1-year post-surgery (1) and ceramic insert breakage occurred 32 months post-surgery (1).The clinical result of lack of thigh pain in all examined cases confirms the choice of a specific and unique tip design optimised to guide the prosthesis insertion into the femoral canal and to avoid distal interference. An excellent 3 year-survival rate of respectively 99.3 % and 98% when considering aseptic loosening and any reason as endpoint was shown.

Conclusions

In general, the design of this prosthesis has been decisive in the results obtained, confirming the versatility of the

MiniMAX stem in primary and revision surgeries when the quality of the cancellous bone is good, as well as in particular cases, such as dysplastic patients or patients with undersized subsiding painful femoral stems for stress shielding requiring revision surgery.

