

# **Hip Arthroplasty for Salvage of Failed Internal Fixation of Trochanteric Hip Fractures**

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**THESIS**

*Submitted for full fulfillment of M.D. Degree in Orthopaedic Surgery*

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## **List of Abbreviations**

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- **ADL** : activities of daily living
- **AO** : Arbeitsgemeinschaft fuer Osteosynthesefragen
- **OTA** : Orthopaedic and trauma association
- **ASA** : American Society of Anesthesiologists
- **BMI** : body mass index
- **CBC** : complete blood count
- **CRP** : C- reactive protein
- **CT** : computer tomography
- **DCS** : dynamic condylar screw
- **DHS** : dynamic hip screw
- **DVT** : deep venous thrombosis
- **ESR** : erythrocyte sedimentation rate
- **HHS** : Harris hip score
- **ICU** : intensive care unit
- **LC- DCP**: low contact dynamic compression plate
- **SD** : standard deviation
- **TAD** : tip-apex distance
- **THA** : total hip arthroplasty
- **THR** : total hip replacement

# Abstract and key words

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## **Background**

Hip arthroplasty after failed treatment of an intertrochanteric fracture in elderly patients is a technically challenging procedure. Its difficulty is due to several factors including; poor bone quality, bone loss and articular cartilage damage. The purpose of the present study was to evaluate the results and complications of hip arthroplasty performed as a salvage procedure after the failed treatment of an intertrochanteric hip fracture.

## **Methods**

Between May 2009 and December 2011, a prospective study was undertaken including thirty-two patients (24 females and 8 males) with a mean age 66.9 years old (range; 50 - 90 years old). Two patients were lost in less than 3 months period and the remaining 30 patients were followed up for a mean of 14 months (range; 3 - 30 months) after surgery. All patients had a total hip arthroplasty. Cemented THA was used in 28 hips, cementless in 3 cases and reversed hybrid in one patient. A calcar replacement design or long-stem implant was used in 16 of the 32 hips.

## **Results**

At the time of the last follow-up, our mean Harris hip score has showed an improvement of 60.87 points (from 13.79 to 74.66). Pre-operatively Harris hip scored ranged from 1.1 to 43 and ranged post-operatively from 54 to 94 points. This wide variation was due to the different patients' demographics, levels of activities and associated medical co-morbidities. We found statistically significant relation between the patient age (p- value 0.001) and

body mass index (p-value 0.00) and the outcome. No statistically significant relationship was found between the number of previous surgeries (p- value 0.57) and type of the original fracture (p- value 0.13) and the outcome.

## **Conclusions**

Hip arthroplasty is an effective salvage procedure after the failed treatment of an intertrochanteric fracture in an older patient. Although technically challenging and need experience, few serious orthopaedic complications were detected in our study. It is results in good functional outcome, pain relief and high patient satisfaction.

## **Level of Evidence**

Therapeutic study, Level IV (case series [no, or historical, control group]).

## **Key Words**

Total hip arthroplasty, intertrochanteric fracture, conversion total hip arthroplasty.