

# 6<sup>th</sup> Annual Surgeons & Orthopedics Conference & Expo

September 12-14, 2016 Atlanta, USA

## Clinical, functional and radiological evaluation of cement less ceramic on ceramic total hip prosthesis in the management of avascular necrosis femoral head for young patients (< 50 years of age)

Praveen Kumar Pandey

ESI Hospital-New Delhi, India

**Background:** Ceramic bearings are widely used in total hip arthroplasty (THR) along with metal and polyethylene bearings. There were several studies in past few years evaluating the advantage of one over the other. The young population with high activity levels has an increased risk of wear debris production at bearing surface and subsequent implant failure. Recently, interest and use of a ceramics with high wear resistance has been growing. Early reports on ceramic on ceramic THR have demonstrated excellent clinical and radiological results.

**Purpose:** To evaluate clinical, functional and radiological outcomes of cement-less ceramic on ceramic primary total Hip Replacement (THR) in young patients (<50 years age) with diagnosis of avascular necrosis femoral head.

**Study Design:** Single-centre, prospective comparative study of prospectively collected outcomes, with a minimum of 12 month follow-up.

**Patient Sample:** 30 patients who underwent cement-less ceramic on ceramic primary THR in young patients (< 50 years age) for avascular necrosis of femoral head.

**Outcome Measures:** For clinical evaluation, Harris hip scores were measured pre-operatively and post-operatively at predefined intervals. For radiological evaluation, Post-operative radiographs were checked for alignment of femoral stem, loosening of stem, presence of heterotopic ossification, loosening of acetabular component at predefined regular intervals.

**Method:** This study included 30 patients, who underwent cement-less ceramic on ceramic primary THR in young patients (< 50 years age) for avascular necrosis of femoral head between July 2013 and April 2015 with a minimum of 12 month follow-up.

**Results:** The mean Harris hip score in our study increased from 32.73 pre-operatively to 87.8 post-operatively at the latest follow up with 90% hips having good-excellent results. This improvement was statistically significant ( $p < 0.005$ ). On evaluation of alignment of femoral stem 27 stems were central (90%) and 3 stems found to be in valgus (10%) and none to be in varus position. There was no significant correlation between stem alignment and clinical outcome based on Harris hip score. Not a single case of focal osteolysis, stem loosening or heterotopic ossification was seen in our study till latest follow-up. None of the major complication was noticed during evaluation of our cases except minor chronic hip pain in one patient which did not restricted his daily living activities.

**Conclusion:** In our study, we found better results of ceramic on ceramic THR for younger patients (<50 years age) comparable to previous studies with no serious complication found in any patient. Based on our study, we recommend ceramic on ceramic THR for younger patients in the age group of less than 50 years of age. We need a study of large sample size with long term follow up to further confirm the findings of our study.

praveen2gir@yahoo.co.in