



FUNCTIONAL OUTCOME OF BASICERVICAL FRACTURE NECK OF FEMUR TREATED BY CEMENTED THOMPSON PROSTHESIS

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ABSTRACT The functional outcome of treating a basicervical fracture neck of femur with cemented Thompson prosthesis was studied. Prospective descriptive study over a period of 12 months involving 30 patients. The mean Harris hip score in the study was 78.4 which was comparable to those conducted by other authors.

KEYWORDS : Fracture neck of femur, basicervical, cemented Thompson, Harris hip score.

INTRODUCTION

Hip joint capsule is a very strong fibrous structure that encloses the femoral head and most part of the neck [1]. Blood supply to the head and neck of femur comes from ascending cervical branches from extracapsular arterial ring. Displaced fracture neck of femur can affect vascularity of head of femur. Complications can occur like avascular necrosis and non union.

Osteoporosis, and the common co-morbidities, increases the incidence of trivial trauma which leads to the increasing incidence of neck of femur fracture. Elderly age group suffers from innumerable illnesses such as diabetes, hypertension,

COPD, all of which can aggravate the morbidity following a fracture neck of femur. The aim of treating these patients is to make them achieve his or her pre-fracture functional status.

Basicervical fracture is a fracture through the base of femoral neck at its junction with the intertrochanteric region. Basicervical fracture has been characterized by an extracapsular location of its fracture line, high fracture angle and absence of muscular attachment to its proximal fragment.

Neck of femur fracture is treated with different modalities like sliding hip screws, Austin Moore prosthesis, Thomson hemiarthroplasty, Unipolar or Bipolar modular hemiarthroplasty and total hip replacement.

In general, treatment of choice in elderly patients is hemiarthroplasty. Bone cement is used in Thomson hemiarthroplasty and modular hemiarthroplasty.

This clinical study presents the short term results of prospective study of hemiarthroplasty with cemented Thompson prosthesis for the treatment of basicervical femoral neck fractures.

Outcomes at 6 weeks, 3 months, 6 months and 12 months were analyzed by modified Harris hip score.

MATERIALS AND METHODS

The present study is a prospective descriptive study of 30 patients who sustained basicervical neck of femur fracture and were treated by hemiarthroplasty with cemented Thompson prosthesis at Government Medical College, Thrissur from 01/01/2015 to 01/01/2016.

The inclusion criteria involved patients of both sexes consenting to the study who had sustained basicervical fracture neck of femur and attending the department of orthopaedics, government medical college, Thrissur.

The exclusion criteria included patients with pathological fracture, those with previous hip surgery, patients with other fracture in the same limb and those with open fractures.

After proper history taking, clinical examination, radiological work up, pre-operative work up, pre-anesthetic checkup and informed written consent, Basicervical fracture neck of femur individuals were

taken up for treatment.

All surgeries were performed on an elective basis using standard aseptic precaution under spinal or general anesthesia. For all patients posterior approach (Moore's Approach also labeled as Southern exposure) was used in the present series.

Post operatively intravenous antibiotics in the form of ceftriaxone was given for three days followed by oral antibiotics. Suture removal was done on the tenth postoperative day and discharged from the hospital.

Patients were followed up at an interval of 6 weeks, 3 months, 6 months and 1 year and functional outcome was analyzed by modified Harris hip scoring system. At each follow up radiograph of the hip was taken for radiological analysis.

OBSERVATIONS AND RESULTS

There were 24 females(80%) and 6 males(20%) with mean age of males being 84.1 and 80.9 in females. 56.7% of the patients had fracture of the right hip. 27(90%) of the patients sustained the fracture following trivial trauma usually a fall, the rest 3(10%) had a road traffic accident.

The patients were scored on the basis of their pain and its relation to the activities of the patient. Most of the patient complained of slight pain in the thigh and groin postoperatively. Only two patients had no pain.

Table 1 Distribution of sample by criteria of pain

Pain	Frequency	Percentage
None	2	6.6
Slight	21	70
Mild	5	16.6
Moderate	2	6.6

Table 2 Distribution of sample by criteria of functional results

Harris Hip Score	Frequency	Percentage
Excellent	8	26.7
Good	7	23.3
Fair	7	23.3
Poor	8	26.7

DISCUSSION

The present study was done in 33 patients with Basicervical fracture neck of Femur treated with cemented Thompson prosthesis in patients. 3 patients were lost to follow-up due to personal reasons.

The observations and results were based upon the remaining 30 patients. The results of this study were compared with similar studies conducted by other authors.

The mean age of patients in the present study was 81.6.

A study by Nelson Keiske, et al[2] in 2010 had a mean age of 83.1 another by Khan SK, et al[3] in 2015 was 82.7.

In the present series, two (6.6%) patients had no pain, while 21 (70%) of them had slight pain in the thigh. Five (16.6%) patients had mild

pain. None of the patients were bed ridden due to pain.

In their study by Nelson Keiske Ono, et al, out of 36 patients, thirty (83.3%) had no pain, four had moderate pain (11.1%) and two had intense pain (5.5%) requiring analgesics frequently. But none of the patients required any revision surgery due to the pain [76].

In the study conducted by Samares N, et al (2015), at 1 year follow up only 1 patient (6%) in the cemented Thompson group had anterior thigh pain and it was mild[4]. They said that the gradual sinking and loosening of the implants led to gradual displacement from its initial position to cause anterior thigh pain. Cement provided a good support to prevent this and hence reduced incidence of anterior thigh pain in those treated with cemented Thompson.

The functional outcome in the present series was assessed at the end of one year using modified Harris hip score [5].

The mean Harris hip score in the present study was 78.4.

Other studies had a similar hip scores such as by D'Arcy, et al[6] in 1976 had 82, by Ahn J, et al[7] in 2008 had 83.1 and by Somashekar, et al[8] in 2013 had 79.79.

CONCLUSION

In the present study 26.7 % had excellent results and 23.3 % had good results. The poor results were mainly due to pain leading to decreased activity. The success of hemiarthroplasty depends upon the pre-operative planning, and optimization of comorbidities of the patient.

The elderly who sustain this fracture are usually sedentary and hence hemiarthroplasty is a good option for them for immediate immobilization.

70% of the study subjects in this study had a co-morbidity and hence it was essential that they are mobilized as soon as possible. Prolonged immobilization leads to worsening of preexisting medical illness. With adequate planning and meticulous surgery cemented Thompson offers a good chance for early mobilization in these patients.

Most of the population here comes from rural areas and as such hemiarthroplasty with cemented Thompson provides a cost effective surgical option for these patients.

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