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FEMORAL NECK FRACTURE;
OUTCOME OF UNIPOLAR HEMIARTHOPLASTY IN ELDERLY PATIENTS

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ABSTRACT… Objective: Objective of this study determines the outcome of unipolar hemiarthoplasty in elderly patients with femoral neck fracture at Liaquat University Hospital Hyderabad/ Jamshoro. **Materials and methods:** Total 50 elderly patients were included in the study with femoral neck fracture and all the cases were selected from accident, emergency and OPD. All the patients with the history of pregnancy, those patients who were unfit for anesthesia, malignancy, neurological deficits of lower extremity, rheumatoid arthritis and Parkinson's disease regarding with systemically disease were excluded from the study. All the patients under went surgical hemiarthoplasty treatment with Austin moor-femoral head prosthesia. In the last all postoperative complications, functional outcome and mortality were noted on proforma. **Results:** Total 50 patients were included in the study. Mean age of this study was mean±SD 64.98±4.13. Females were found in majority with male/ female ratio 1:1.27. Post operative pain was noted in the 50% of the cases and out of them severe pain was noted only in 4% of the cases. Superficial infection was seen in 4% of the cases and deep infection was not found in the cases and death was occurred in 10% of the patients. On the outcome, excellent results were found in the 44.44% of the study participants, good and fair results were seen in 26.66% and 20% respectively, while poor results were seen in 8.88% of the patients. **Conclusions:** It is concluded that unipolar hemiarthoplasty is of the reliable procedure by use of Austin-moor femoral head prosthesia for the treatment of femoral neck fracture in elderly.

Key words: Unipolar Hemiarthoplasty, femur neck fracture, elderly patients.

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INTRODUCTION

Femoral neck fractures, is the very common injuries in the elderly patients, and also a great challenges to orthopaedic surgeons. Its incidence continuously increasing according to the demographic estimation in the future[1,2]. Mostly in the elderly patients femoral neck fractures characterize a significant health care problem and have enormous impact on health insurance costs. Prevalence of hip fractures related to osteoporosis is progressively increasing[3,4]. In Germany, a rise of 74% in prevalence of proximal femoral fractures until the year 2020 is forecasted,[4] and further more a currently in hospital mortality of 8.6% was described in over 85 year old patients. This kind of fractures having high morbidity and mortality[4,5].

Nowadays surgeon may able to select the hemiarthoplasty for the fracture neck of femur and or internal fixation with cannulated screw or DHS, and unipolar hemiarthroplasty, bipolar hemiarthroplasty and total hip arthroplasty in the treatment of femur neck fracture[6].

The open reduction and internal fixation having many complications like, non union, AVN and increase morbidity and mortality with long time. Unipolar hemiarthroplasty with Austin Moore prosthesis is rarely employed in the developed countries though it is very commonly used in developing countries like India. It should ideally be reserved for very limited or non-ambulatory patients[7].

Internationally surgeons treat older patients similar to younger ones by CRIF using cannulated screws or devices like the sliding hip screw. For this dissimilarity, reconstruction options are including; hemiarthroplasty; unipolar, bipolar and total hip arthroplasty. Therefore, the optimal treatment of this patient population is still under debate[8]. The bipolar and total hip arthoplasty are costly and having technical demanding surgeries. The unipolar hemiarthoplasty with Austin moor is cost affect easy available and having less morbidity and mortality and patients can walk on their own feet in few days after surgery. So the purpose of this study to determine the outcome efficacy including postoperative complications of Austen Moor Hemiarthoplasty in

elderly patients with femoral neck fracture at Liaquat university Hospital Hyderabad/ jamshoro.

MATERIAL AND METHODES

This observational and prospective study was carried out at orthopedic department of Liaquat University hospital Hyderabad/ Jamshoro. Total 50 elderly patients were included in the study with femoral neck fracture and all the cases were selected from the emergency and OPD. This study was conducted with duration of the time of January 2011 to December 2013. Informed written consent was taken from the every patient's attendant and also informed about patient's conditions. All the patients with the history of pregnancy, having non ambulatratory status before fracture, malignancy, neurological deficits of lower extremity, rheumatoid arthritis and Parkinson's disease regarding with systemically disease were excluded from the study. Complete physical examination, basic history of fracture radiological diagnosis and routine laboratory investigations were done. All the patients under went surgical unipolar hemiarthoplasty treatment with use of Austin-moor femoral prosthesia. All the patients were fastened an addiction pillow on operated leg with crepe bandage post operatively, to protect the leg from postoperative dislocation for 10 to 14 days according to the patient's compliance and co-operation. All the patients were allowed to sit and light exercise of foot and leg on next day of surgery. In the follow up protocol patients were kept in the ward of Hospital for 7 to 15 days. After 15 days patients were called every 15 days in OPD for one month and then patients called for monthly checkup for three months. In the last maximum 6 month to 1 year all postoperative complications, functional outcome and mortality were noted on written Proforma.

RESULTS

Total 50 patients were included in the study 22 male and 28 females. Mean age of this study is mean±SD 64.98±4.13. Females were found in majority with male/ female ratio 1:1.27. Table-I.

Mean	64.98
Std. Deviation	4.13
Range	<59
Male/ Female = Ratio	22/28=1:1.27

Table-I. Age and gender distribution (n = 50)

All the fractures were graded according to the Garden's classification and 39.% of patients were noted with grade III while 61% were noted with grade IV. FIG:1.

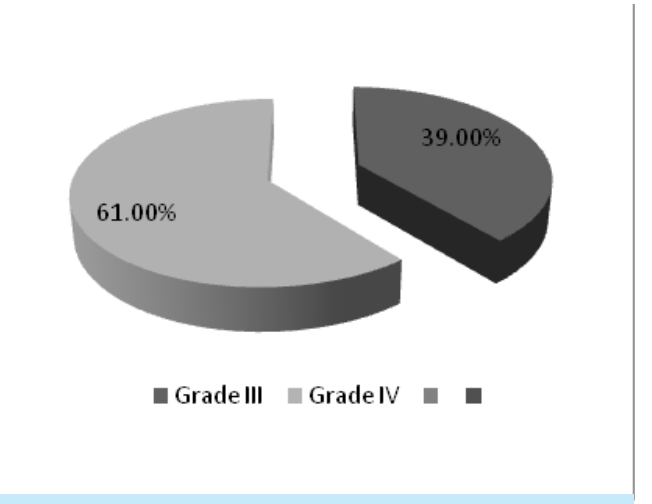

Fig-1. Fracture grades according to garden type (n=50)

Majority of the patients 62% of cases reported with history of fall after them 40% of the cases were slipped and 22% fallen from the height, while 38% of the cases were with the history of road traffic accident. Table-II.

Mode of injury	No. of patients/%age
Fall (Slip)	20/(40.0%)
Fall (from height)	11/(22.0%)
RTA	19/(38.0%)

Table-II. Mode of injury n=50

Regarding to the complications pain was noted in the 50% of the cases and out of them severe pain was noted only in 4% of the cases. Superficial infection was seen in 4% of the cases and no deep infection was noted in the cases. 6% patients were showed with bed sores, UTI was in 8%, and dislocation of prosthesis was seen in the 0% of the cases, while according to the mortality, death was occurred in 10% of the patients. Table-III.

Complications	No. of patients/%age
Pain	
Mild	15/(30.0%)
Moderate	8/(16.0%)
Severe	2/(4.0%)
Infection	
Superficial	2/(4.0%)
Deep	0/(0%)
UTI	4/(8.0%)
Bed sore	3/(6.0%)
Dislocation	0/(0%)
	5/(10.0%)

Table-III. Post-operative complications n=50

Functional outcome in 45 remaining patients was recorded according to D, Arcy et al scoring system, as well as excellent successful results were found in the 44.4% of the study participants, good and satisfied results were seen with the percentage of 26.66% and 20.0% respectively, while poor results were seen in 8.88% of the patients. Table-IV

	Frequency	%
Excellent	20	44.4%
Good	12	26.66%
Fair	09	20.0%
Poor	04	8.88%

Table-IV. Outcome by D, Arcy et al scoring system. n=45

DISCUSSION

Femoral neck fractures, one of the most common injuries in the elderly, have always presented great challenges to orthopaedic surgeons. The incidence of these fractures has increased with improvement in life expectancy and is expected to double in the next 20 years and triple by 2050[9]. The goal of treatment of femoral neck fractures is restoration of pre-fracture function without associated morbidity[10]. Experience of the last four decades has shown that hemiarthroplasty is the best treatment for intracapsular fracture neck of femur in elderly in terms of both short-term and long-term results[11].

In the study of Jadhav AP et al,[12] reported mean age 65.7, Onche and Yinusa[13] showed mean age in the study 67.4, in another study of Essoh J.B. Sié M.D et al reported range of the age 55-88 years with the slandered deviation of 7.2[14]. Similarly in this study mean age was showed as mean±SD 64.98±4.13. In the study of Ahmed I, 15 reported male female ratio was 1:2. While in this study female were in the majority as compare to male with the male/female ratio of 1:1.27.

In the study of Shrinivas Kalliguddi et al[16] 9 cases (45%) affected were due to Slip and Fall, 8 cases (40%) due to RTA, and 3 cases (15%) due to Fall from height. Slip and fall was the most common mode of injury. As well as in this study Majority of the patients were come with the falling out of them 40% were slipped and 22% were felled from height, while 38% of the cases were come with road traffic accident.

In a study performed by Essoh J.B. Sié M.D et al,[14] showed fracture types according to garden 32.1% patients with fracture grade III and 67.9% patients with grade IV. Similarly in this study according to the Garden and 39.% of patients were noted with grade III while 61% were noted with grade IV.

According to the study of Barnes CL et all,[17] dislocation rate was 1.5%. Other authors reported 4% dislocation rate[18,19]. Noor SS.[20] reported 0% dislocation in their study with unipolar hemiarthoplasty. We have 0% dislocation rate because we fasten adduction pillow to the leg postoperatively for 1 to 2 weeks, along with care full shifting of the patients from theater table to the bed and also for X-ray. Postoperative wound infection 0% reported by Noor SS,[20] and 7.5% reported by Dinesh Dhar[21]. In general duration of operation has been proven conclusively to be a potent risk factor in the development of postoperative infection[13]. We have only 4% superficial infection was noted because all the surgeries were performed by senior surgeons having less operating time with pre and post antibiotic cover and the special care was taken for patients hygiene and theater condition.

Mortality rate reported by Somashekar et al[22] 9.5% in the patients treated with unipolar hemiarthoplasty and Aharonoff GB et al[23] reported 11.77%. Essoh J.B. Sié M.D et al,[14] reported mortality rate 8.3% in the patients treated with Austin moor hemiarthoplasty. Mortality at six months is 13.5% overall[22] and one year mortality rate following hip fracture surgery is remarkably high, and is usually around 26%[24]. While in the present study mortality rate was only 10%, in our series mean age was 64.98 having less co morbidities, while in other series age was above 70 years mostly including with severe co morbidities which was causing high mortality rate.

In the study of Anshu Shekhar et al[7] reported outcome of hemiarthoplasty treatment in patients with femoral neck fracture as, excellent 43.5%, good 38.4%, fair 11.3% and poor 6.8%. Dinesh Dhar et al[21] reported outcome of of austen moor in femor neck fracture outcome excellent 80.2% and fair 19.8%. Noor SS et al[20] reported outcome as, excellent 38%, good 21%, fair 24% and poor 17.3%. Similarly in the present study outcome in 45 remaining patients was as; the excellent results were found in the 44.44% of the study participants, good and satisfied results were seen with the percentage of 26.66% and 20% respectively, while poor results were seen in 8.88% of the patients.

CONCLUSIONS

In the conclusion of this study the main cause of the injuries is falling and RTA which may reduced by good care of elders and driving should be carefully

mostly of motorcycle, further more the Austen Moor Hemiarthoplasty (unipolar) is the good surgical treatment for the femur neck fracture. It is commonly available, cost effect with less morbidity and mortality.

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