Original Article

Femural Neck Fracture

Outcome of Femural Neck Fracture Treated by Austin –Moor Hemiarthoplasty in Elderly Patients

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ABSTRACT

Objective: To determine postoperative complications including with ambulation improvement and condition in elderly patients with fracture neck of femur treated by Austin-Moore hemiarthroplasty during 6 months period postoperatively at Peoples medical university Hospital Nawabshah.

Study Design: Descriptive case series study.

Place and Duration of Study: This study was carried out at Peoples Medical University Hospital Nawabshah and Liaquat University Hospital Hyderabad from July 2012 to July 2014.

Materials and Methods: Total 100 elderly patients with femoral neck fracture with the age of above 60 years were included in the study. The patients were followed for a period of 6 months postoperatively and all the postoperative complications were documented in the proforma.

Results: This study was contains total of 100 elder patients with femur neck fracture majority of male 72%. Most common 69% age group of the elder patients was 60 – 69, years of the age. Fractures were present 55% on the left sides while 45%. Majority of the cases were found with co morbidies 58%, and according to the post operative complications wound problem was found most common21% along with implant infection 9%, 2nd most common complication was bed sore 11%. On the outcome excellent results were found 32.60%, good results were 42.70%, while fair and poor results were as 16.30% and 8.40% respectively. While 17%, death was recorded during 6 month of postoperative time.

Conclusion: Austen Moor Hemiarthoplasty is the good surgical technique of the management for the fracture of the femur. It is very cost effect treatment along with very small amount of morbidity and mortality.

Key Words: Femoral fracture, Austin-Moore hemiarthroplasty.

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INTRODUCTION

Neck of femur is the commonest site of fracture in the elderly.[1,2] Femoral fractures are not easy to manage, and also results after treatment not completely satisfactory till nowadays.[2,3] Most of the fractures occur in elderly patients due to minor to moderate trauma while theses fractures in younger patients usually resulting due to high energy trauma. Fracture NOF is associated with considerable morbidity and higher mortality than the general population. It can be complicated by immobilization, skin breakdown, pulmonary and bowel dysfunction, disorientation, deep vein thrombosis, avascular necrosis and nonunion[4,5]. The mortality at one year range from 14 to 48%in different studies[4,6,7]

In 1942 when metallic implants like Austin Moore Prosthesis replaced the head, the problems of avascular necrosis and nonunion were improved. The patients get early mobilized and complications due to prolonged immobilization reduced. Treatment of fracture of the femoral neck has been contentious throughout the years, with several opinions assortment from decrease and internal fixation to moreover a incomplete "hemiarthroplasty" or total "total hip replacement", whereas prosthesis should be cemented or uncemented and or it should be unipolar or bipolar.[8,9] Displaced intracapsular treatment of neck fracture of the femur in functionally active cases remains a matter of hot discuss. The management include internal fixation for a displaced fracture, hemiarthroplasty or total hip Arthroplasty for elderly patients with displaced fracture and open reduction and internal fixation is preferred in young patients.[10] The important factors considered in selecting various treatment modalities are age of patient, his general medical condition, type of fracture, availability of facilities and socioeconomic condition of patient. It is (Austin- Moore hemiarthroplasty) not suggested to undisplaced fracture of the femur neck, for the reason that mortality is increased.[11] It is associated with increased risk of subsequent revision in younger patients. It has acceptable long-term results, relatively inexpensive and avoids disadvantages of using cement.[12,13] Life expectancy is increased and our society in

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becoming more and more geriatric. Quantity of cases having femoral neck fractures are raising as a squeal. This has a tremendous impact on public health policy, the health care system and society in general.[10] Review of literature showed few studies on mortality and morbidity in hip fractures in Pakistan. Recently and in the coming years the elderly population is bound to increase, hence early planning for the future could help in the proper management of the elderly patients. Procedure of "Austin-Moore hemiarthroplasty" is usually carried out mostly in all hospitals of Pakistan. But the long term results have not been reported previously.[9,14] Therefore the purpose of this study to evaluate the outcome including; postoperative complications, ambulatory status, and mortality in elderly patients with displaced fractures of femoral neck and were treated by Austin-Moore hemiarthroplasty.

MATERIALS AND METHODS

This descriptive case series study was carried out prospectively in Orthopaedic department of Peoples medical university Hospital Nawabshah and Liaquat University Hospital Hyderabad, with the duration of the time from the July 2012 to July 2014. Both male/ female above the age of 60 years were included in the study. Patients will be admitted from the emergency and OPD department according to the inclusion and exclusion criteria. (Anesthesia assessment will be carried out by a senior anesthetist. Informed and written consent will be taken from the attendant of the patients who were included in the study for surgery. Prophylactic antibiotics were given. All the patients under went Austin-moor hemiarthoplasty treatment with use of femoral prosthesia Post operatively patient were mobilized on 1st or 2nd post operative day with the help of crutches or walker, along with range of motion exercises and quadriceps strengthening exercises. All the cases were discharged on 3rd and 4th day after operation. OPD follow up was carried out at 2 weeks for removal of sutures and then at 6th weeks and 6th month to record the all complications, by operating team members in OPD, on proforma. Contact on phone was done, if any patient fails to follow in OPD. All radiology was done at Radiology Department. After all of that, all postoperative complications, functional outcome and mortality were noted within maximum six month of the period and noted on written Proforma. Data was entered and analyzed by SPSS program version 16.

RESULTS

This study was contains total of 100 elder patients with femur neck fracture majority of male 72% patients were found in this study as compare to females 28%, most common age group of the elder patients was 60 - 69 years of the age while 22% cases were seen in the 70 - 79 years of age group and 9% of the cases were noted of 80 years and above, fractures were present 55% on the left sides while 45% were documented at right sides, mostly fractures were with the garden 3 type 65% and while 35% were with garden4 types. Table 1.

Regarding the postoperative mobility of the patients all patients were classified into five groups. 13% cases of group one who were mobilized on the first postoperative day. 30% cases of group 2 were mobilized on 2nd day and 30% Group 3 on 3rd day. 17% patients of group 4 those were in whom mobility took more than three days and 10% patients of group 5 were kept only bed to chair. Figure 1.

Majority of the cases were found with co morbidities 58%, and according to the post operative complications wound problem was found most common21% along with implant infection 9%, 2nd most common complication was bed sore 11% results shows in Table 2.

On the outcome excellent results were found 32.60%, good results were 42.70%, while fair and poor results were as 16.30% and 8.40% respectively. Figure 2.

17% death was recorded during 6 month of postoperative time. Figure 3.

Table: No.1: Base LINE CHARECTERISTICS of the patients (n = 100)

Charecteristics	Number	Percentage
Gender Distribution		
Male	72	72.0%
Female	28	28.0%
Age Groups		
60 – 69	69	69.0%
70 – 79	22	22.0%
< 80	09	09.0%
Fracture Side		
Right	45	45.0%
Left	55	55.0%
Fracture according to Garden type	65	65.0%
Garden 3	35	35.0%
Garden 4		

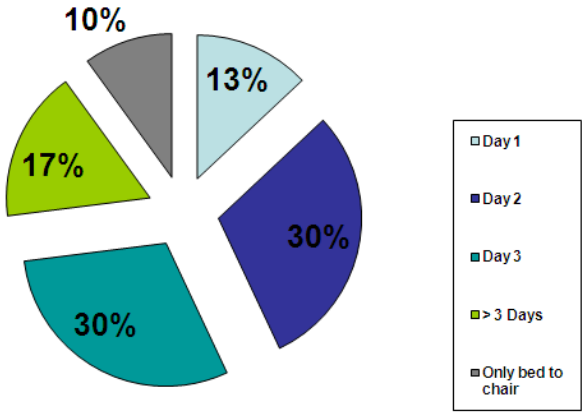

Figure No.1: Posoperative imbulation status in patients (n=100)

Table No.2: Postoperative complications in the patients. (n=100)

Complications	Number	Percentage
CO MORBIDIES		
Yes	58	58.0%
No	42	42.0%
COMPLICATIONS		
Dislocation	05	05.0%
Wound problems	21	21.0%
DVT	02	02.0%
Bed sore	11	11.0%
Implant infection	09	09.0%
Periprosthetic fracture	01	01.0%
Acetabular protrusion	02	02.0%

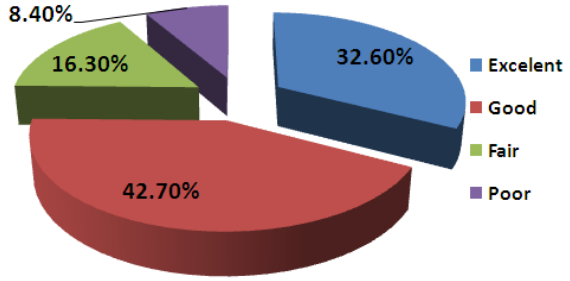

Figure No. 2: Outcome of the patients. n=81

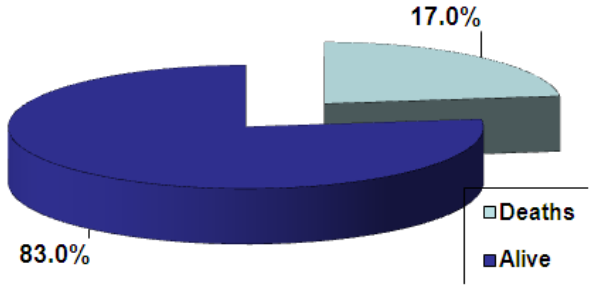

Figure No.3: Total deaths record in postoperative 6 months duration (n=100)

DISCUSSION

Neck fractures of the femur, is most important injuries in the elderly peoples, and with always obtainable big challenges to the surgeons of orthopaedic. The frequency of femoral fractures had raised with development in life expectation, and is predicrable to double in the next twenty years and triple within 2050.[15] The purpose of fractures management of femoral neck is re-sestablishment of pre-fracture physiology lacking related morbidity.[16] Experience of the last four decades has shown that hemiarthroplasty is the best treatment for intracapsular fracture neck of femur in elderly patients in condition of short-term results and long-term results.[17]

In the study of Jadhav AP et al,[18] reported mean age 65.7, Once and Yinusa[19] 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 standered deviation of 7.2.[20] Similarly in this study most common age group of 69% of the elder patients was 60 - 69 years of the age while 22% cases were seen in the 70 - 79 years of age group and 9% of the cases were noted of 80 years and above. Ahmed et aI,[21] reported that ratio of male female, was 1:2. While in this study total of 100 elder patients with femur neck fracture majority of male 72% patients were found in this study as compare to females 28%.

In this study mostly fractures were with the garden 3 type 65% and while 35% were with garden4 types. While in a study performed by Essoh J.B. Sié M.D et al,[20] showed fracture types according to garden 32.1% patients with fracture grade III and 67.9% patients with grade IV.

In the present study postoperative mobility of the patients were classified into five groups. 13% cases of group one who were mobilized on the first postoperative day. 30% cases of group 2 were mobilized on 2nd day and 30% Group 3 on 3rd day. 17% patients of group 4 those were in whom mobility took more than three days and 10% patients of group 5 were kept only bed to chair. Generally round about 50% to 60% fracture of the hip, cases recover their pre-fracture status of ambulatory along with ano year.[22] Frequency of the cases who achieve unaided community ambulation of (able to go outside home) has been stated as 11% to 30%.[20,23] One study found that 30% of post surgery patients with cemented prostheses needed a higher level of walking aid than before injury; 60% of patients with uncemented prostheses needed similar assistance.[24] Uses of the walking stick was necessary in 17% to 62% of cases had uncemented prosthesis and 40% to 50% of cases had cemented prosthesis; walker uses was the necessary for 15% to 35% and 27% to 40% of cases..[20,23]

In the present study majority of the cases were found with co morbidies 58%, and also dislocation was found 5% in our series. According to the study of Barnes CL et all,[25] dislocation rate was 1.5%. Other authors reported 4% dislocation rate.[26,27] In the present series wound problem was found most common 21% along with implant infection 9%. Dinesh Dhar.[28] In general duration of operation has been proven conclusively to be a potent risk factor in the development of postoperative infection.[13] Pahore M et al,[29] reported only 4% superficial infection.

In the present study excellent results were found 32.60%, good results were 42.70%, while fair and poor results were as 16.30% and 8.40% respectively. In the study of Anshu Shekhar et al[30] 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[28] reported outcome of

of austen moor in femor neck fracture outcome excellent 80.2% and fair 19.8%. Noor SS et al[31] reported outcome as, excellent 38%, good 21%, fair 24% and poor 17.3%. Pahore M et al,[29] reported that 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.

In this series 19% death was recorded during 6 month of postoperative time. Mortality rate reported by Somashekar et al[32] 9.5% in the patients treated with unipolar hemiarthoplasty and A haronoff GB et al[33] reported 11.77%. Essoh J.B. Sié M.D et al,[20] reported mortality rate 8.3% in the patients treated with Austin moor hemiarthoplasty. Mortality at six months is 13.5% overall[32] and one year mortality rate following hip fracture surgery is remarkably high, and is usually around 26%.[34]

CONCLUSION

In conclusion of this study Austen Moor Hemiarthoplasty is a better procedure for fractures of the femoral neck, that's provides the freedom from pain, very good results of ambulatory status. It is a good surgical technique including with very cost effect in price, along with very small amount of morbidity and mortality.

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