"A STUDY OF SHORT TERM OUTCOME OF TOTAL HIP ARTHROPLASTY IN PATIENTS WITH FRACTURE NECK OF FEMUR"

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ABSTRACT

BACKGROUND: Osteoporosis may be defined as a reduction in the bone mass which occurs in the elderly and increases susceptibility to fracture[1]. With this reversing ageing pyramid and increasing incidences of osteoporosis, hip fracture especially fracture neck of femur is an established public health concern globally[2]There is still a dilemma over internal fixation or arthroplasty in the treatment of fracture neck of femur in the elderly age group. The problem of fracture neck of femur is one of the oldest in orthopaedics. In spite of earnest work by many in this field the problem remains far from being solved, hence rightly labelled as "Unsolved Fracture" by Dickson [3]

MATERIAL AND METHODS: 30 patients who are of age 55 years and above with displaced fracture neck of femur (Gardens type III or type IV)were included in this study .

RESULTS: In the present study, Average age of the patient was 66.86 years.

Incidence of femoral neck fracture was higher in females (53%).

Right side was more commonly involved in 57%.

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Trivial fall was found to be the commonest cause of injury due to senile osteoporosis in 83.33% of the cases. Excellent results were found in 46.66% of the study group while good results were obtained in the other 46.66% of the patients. 6.66 % had fair results. Early mobilization and weight bearing was possible with average hospital stay of 14 days .

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CONCLUSION: Total hip arthroplasty is the ideal treatment for elderly patients with displaced fracture neck of femur .the mortality and morbidity is low. The complications are less and easily treatable. Patient can be made to weight bear early and the hospital stay is less. The functional results are good and there is good patient satisfaction.

INTRODUCTION:

Osteoporosis may be defined as a reduction in the bone mass which occurs in the elderly and increases susceptibility to fracture [1].Demographic Changes in the next 60 years will lead to huge increases in the elderly populations in Asia, South America and Africa [4].

With this reversing ageing pyramid and –increasing incidences of osteoporosis, hip fracture especially fracture neck of femur is an established public health concern globally[2].Allover the world it is found that fracture neck of femur is almost two times more common in woman than men. This could be explained due to lower bone mass and increased incidence in trivial trauma i n woman[5]

There is still a dilemma over internal fixation or arthroplasty in the treatment of fracture neck of femur in the elderly age group. However in the elderly the modality which brings the patient swiftly back to the pre-injury level of activities should be always used.

Total hip arthroplasty is been found to be the ideal modality of treatment in various western literature in the west, however very few studies are available in the Indian scenario for the the same. Hence a study on total hip arthroplasty in fracture neck of femur in elderly is the need of the hour. Hence this study.

METHODS AND MATERIALS:

30 Patients of age 55 years and above who have been clinically and radiologically diagnosed to have fracture neck of femur fitting into inclusion criteria after excluding those who meet exclusion criteria were chosen between October 2015 to October 2017, among the outpatients at the Orthopaedic Department of R.L. Jalappa charitable hospital, Tamaka, Kolar.

After adequate pre-operative evaluation the patients underwent total hip arthroplasty surgery. Intra operative, post-operative complications if any were documented . the outcome was measure at the end of 3rd month of follow up according to the Harris hip scoring system .

RESULT:

30 cases of elderly patients with displaced intracapsular fracture neck of femur treated with total hip arthroplasty were studied. Average age of the patient was 66.86 years. Incidence of femoral neck fracture was higher in females (53%)

Right side was more commonly involved in 57%.

- Trivial fall was found to be the commonest cause of injury due to senile osteoporosis in 83.33% of the cases.

Age in Years	No. of Patients	Percentage

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55-65	20	66.66%
66-75	6	20%
76-85	03	10%
86-95	01	3.33%
Total	**30**	**100%**

Table 1: Age distribution of study subjects

Sex	**No. of Patients**	**Percentage**
Male	14	47%
Female	16	53%
Total	**30**	**100%**

Table 2: Sex distribution of study subjects

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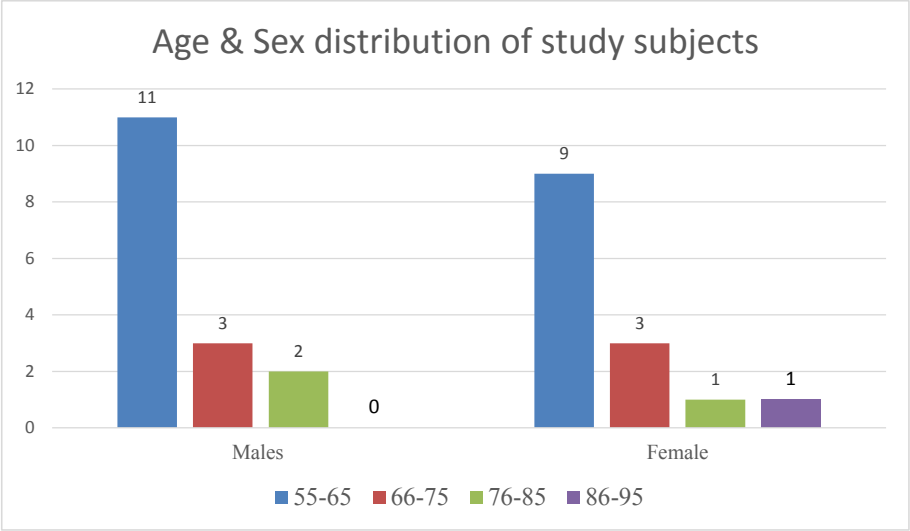

Graph 1: Age and Sex distribution of study subjects

Average hospital stay was 14 days. Early post operative complications were – one case of superficial surgical site infection and one case of prosthetic dislocation. Excellent results were found in 46.66% of the study group while good results were obtained in the other 46.66% of the patients. 6.66 % had fair results.

Grade	Harris Hip Score	No. of patients	Percentage
Excellent	90-100	14	46.66
Good	80-89	14	46.66
Fair	70-79	2	6.66
Poor	<70	0	-

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FINAL HARRIS HIP SCORE AND CLINICAL RESULT

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Table 3: Final Harris Hip Score and clinical result

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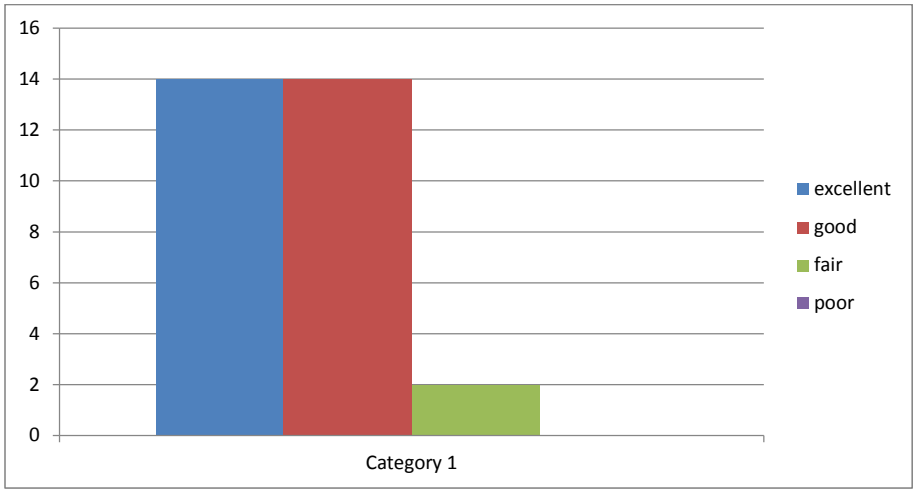

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Graph 2: Final Harris Hip Score and clinical result

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DISCUSSION:

Fracture neck of femur is still an unsolved enigma for an orthopaedic surgeon. Results have been variable with various modalities of treatment which includes osteosynthesis, hemi replacement and total hip replacement. Internal fixation by various modalities has had poor results as the blood supply is compromised and is more so in the elderly population. Hemiarthroplasty is commonly done due to the lesser risks involved. However the results in the long run are not good due to acetabular erosion and thus require revision surgeries. Hence doing a hemiarthroplasty for the sake of lesser implant cost is not valid due to the higher expenditure due to revision surgeries. Hence total hip arthroplasty is a good alternative and has been proved to be the first line treatment in fracture neck of femur in mentally fit, independent elderly population with displaced fracture neck of femur in the western population.

With this as an idea we undertook the present study to evaluate the immediate results of total hip arthroplasty in fracture neck of the femur keeping in view of living condition of an average Indian.

The average age of patients in this study was 66.86 ranging from 55 to 92. Most patients were younger than 70 as they were independently mobile before the injury. The average age in most other studies was between 78- 84 years [6].

The patients were predominantly women in this study which was in accordance with other literature [7]. This can be explained by increased incidence of osteoporosis in elderly women thus having increased chances of fracture neck of femur due to trivial trauma .

The mortality rate in present series is nil which is comparable to that of others. Low mortality is probably due to proper selection of cases. When majority of the deaths in western series were

due to cardiac problems[8], we had only two case with established ischaemic heart disease who underwent total hip arthroplasty. Low death rate may be also due to proper management of the associated medical problems preoperatively, use of antibiotics routinely and early mobilization.

The average operative time in this study was 114 minutes (range 102 -140 minutes) . This was in accordance with other studies which have documented the operative time [9]. In this study there was one case (3.33%) of posterior dislocation of the prosthesis. It was treated promptly by closed reduction under general anaesthesia [10]. Further post operative period was uneventful and did not affect the outcome in this patient.

The functional outcome of the patient at the end of three months follow up was assessed using the Harris hip score. The average Harris hip score in this study was 89.83(range 78 to 94). The average functional outcome by Harris hip score in various other studies are similar to these [11]

CONCLUSION: Total hip arthroplasty is the ideal treatment for elderly patients with displaced fracture neck of femur .the mortality and morbidity is low. The complications are less and easily treatable. Patient can be made to weight bear early and the hospital stay is less. The functional results are good and there is good patient satisfaction.

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