

A Retrospective Look at Fragility Hip Fractures in Elderly

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Abstract

Fragility Hip Fracture (FHF) in an osteoporotic individual is a global health issue. A retrospective cohort study was carried out to understand the status of FHF in geriatric population in Nepal. The average age of hip fracture was found out to be 74.25 ± 11.63 . 70.83% of people with FHF underwent surgery, mostly after 9th day of admission, with an inpatient post-surgery mortality of 2.5%. COPD, HTN and DM were the comorbidities seen in patients with FHF.

Keywords: Fragility hip fracture; Fracture neck of femur; Intertrochanteric fracture; Elderly

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Introduction

Fragility hip fracture, a common condition seen in the elderly, is an important health issue in today's world. A significant increase in the incidence of proximal femur fracture has been observed in the recent decades, mainly due to the increase in the elderly population, since this incidence progresses with advancing age [1]. Most people with hip fractures have osteoporosis [2] and more than 90% of all hip fractures are attributed to falls [3].

One in three hip fracture patients die within the first year after the hip fracture [4], and one out of three is admitted to a nursing home for the first time within one year of the hip fracture. Because of its burden on mortality and morbidity, fragility hip fracture is amongst the most thoroughly investigated consequence of osteoporosis [5]. Unfortunately, only a small number of reports on the patterns of FHF in the developing countries exists. Nepal lacks data registry for fragility hip fracture, therefore, its epidemiology is unknown here. This research is an attempt to change this scenario.

Objectives

The primary aim of the study was to find out the situation of fragility hip fracture in geriatric population in Nepal. The secondary objective was to compare the two major types of fragility hip fracture, namely, femoral neck fracture and intertrochanteric fracture and the mortality and morbidity associated and management of the condition.

Methods

A retrospective cohort study was carried out to understand the fragility hip fracture status in Nepal. The inclusion criteria were patients of more than 60 years old admitted from 1st January 2016 to 31st December of 2017 with the diagnosis of either fragility hip fracture or intertrochanteric fracture which were caused due to fall from standing height or less. Patient variables were patient demographics, mechanism of injury, injury location, and day of operation, hospital stay, co-morbidities, and in-patient mortality. Data was compiled using MS Excel 2016 and all statistical analyses were performed with SPSS 26.0. Quantitative variables were presented in statistical terms.

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$P < 0.05$ was considered statistically significant.

Results

A total of 480 geriatric FHF patients were admitted in the study period, out of which 52% (252/480) had fragility hip fracture outnumbering intertrochanteric fracture 47.5% (228/480). The male to female ratio in the fragility hip fracture was 2:3 (101/151) whereas it was 2:1 (152/76) in intertrochanteric fracture. (Figure 1).

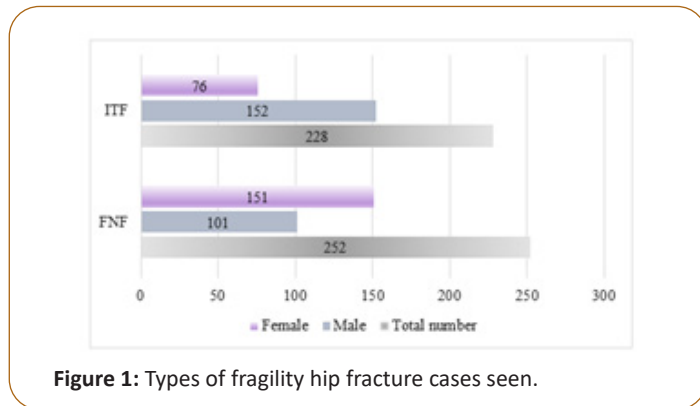


Figure 1: Types of fragility hip fracture cases seen.

The average age in years for fragility hip fracture was 74.25 ± 11.63 whereas that of intertrochanteric fracture was 73.06 ± 11.27 and intertrochanteric fracture was 76.06 ± 12.32 (p value < 0.5).

Out of 480 patients, 96 patients (20%) were treated conservatively whereas 28 patients (5.65%) left against medical advice and 16 patients (3.33%) were referred to another hospital on request. 340 patients (70.83%) were operated. (Figure 2) The operative procedures carried out were hemireplacement arthroplasty with Austin Moore prosthesis in majority of fragility hip fracture whereas intertrochanteric fracture was treated by hemireplacement arthroplasty with thomson prosthesis, dynamic hip screw and proximal femoral nails.

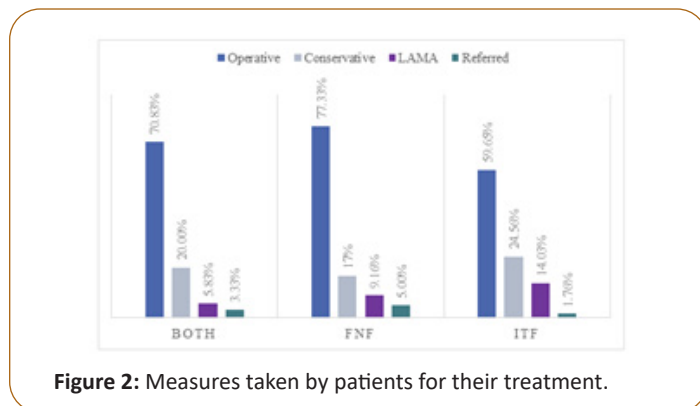


Figure 2: Measures taken by patients for their treatment.

The mean surgery day after admission FNF was 9.5 days, for intertrochanteric fracture was 9.96 days and 9.73 day on average. (Figure 3) The average hospital for stay was 19.63 days. The operated patients stayed longer (22.17 days) than the ones who were managed conservatively (15.42 days) ($p < 0.5$). There was inpatient mortality of 12 patients (2.5%) post-surgery. 68.05% of hip fracture patients were found to have significant comorbidities

with FNF having more comorbidities than IIF (75% vs. 61.1%). (Figure 4) Hypertension (36%), COPD (33.33%) and Diabetes Mellitus (29.17%) were the three main comorbidities seen in the hip fractures patients. In our study, we found that 23.08% of fragility hip fracture patients were current smoker.

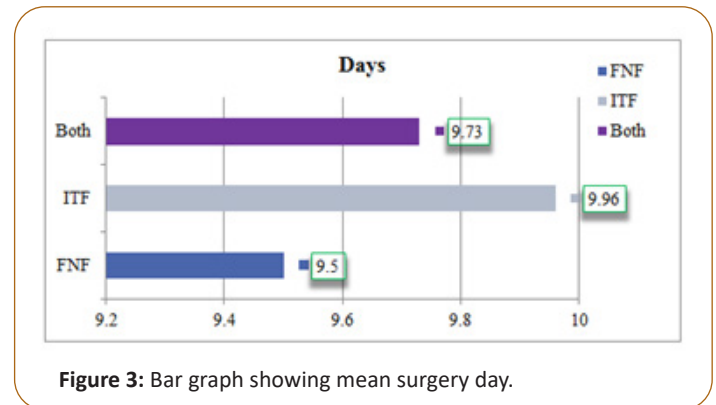


Figure 3: Bar graph showing mean surgery day.

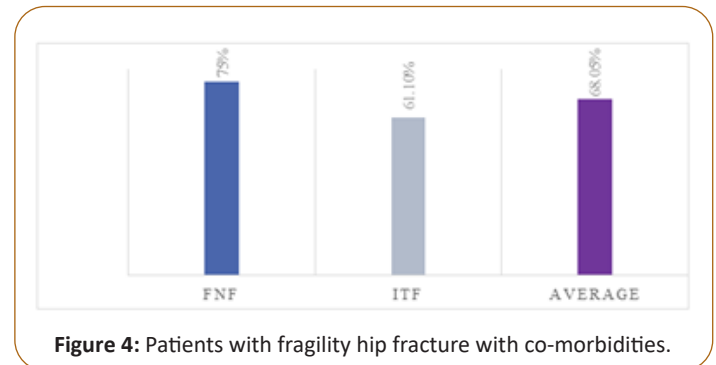


Figure 4: Patients with fragility hip fracture with co-morbidities.

Discussion

Among the total 480 cases, the average age of hip fracture was 74.25 ± 11.63 . fragility hip fracture was commoner in female whereas intertrochanteric fracture was increased in males (M:F ratio of 2:3 vs. 2:1 respectively). The main comorbidities seen with these fractures were DM, HTN and COPD. On an average, 68.05% had comorbidities.

Probably, the most striking finding of the current research was the inpatient post-surgery death of 2.5%. This could have resulted from delayed surgery with mean surgery day of 9.73 days post admission. Weller et al. recommended the fragility hip fracture to be operated within 1.2 days [6,7].

One of the main limitations of this study is that it is based on the records of hospitalization cases has excluded patients from OPD services. Nevertheless, this research will give an insight to the readers on the hip fractures in the elderly due to osteoporosis in Nepal.

Conclusion

In conclusion, FHF is a frequent and important orthopaedic scenario in the elderly. The two most likely fractures in the hip areas are FNF and intertrochanteric fracture. Surgical intervention must be carried out at an earlier time as a delayed intervention can result into increased mortality. More researches must be

carried out in this regard to improve the management and outcome of hip fractures.

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