



PSYCHIATRIC COMORBIDITY AMONG PATIENTS WITH HIP FRACTURE - STUDY FROM NORTH INDIA

Rameshwar S Manhas	Senior Resident, Department of Psychiatry, Government Medical College, Jammu, J&K, India.
Rakesh Banal*	Lecturer, Department of Psychiatry, Government Medical College, Jammu, J&K, India *Corresponding Author
Amit Sharma	Resident Scholar, Department of Orthopaedics, Government Medical College Jammu, J&K, India
Jagdish R Thappa	Prof & HOD, Department of Psychiatry, Government Medical College, Jammu, J&K, India.
Angli Manhas	Senior Resident, Department of Ophthalmology, Government Medical College Jammu, J&K, India.
Gaurav S Manhas	Resident Scholar, Department of Radiodiagnosis, Government Medical College Jammu, J&K, India

ABSTRACT

Background: The elderly hip fractures are associated with high rates of psychiatric illnesses which have adverse effects on several important outcomes. The most common comorbid conditions associated with hip fractures are delirium, depression and dementia & their impact can be decreased with appropriate psychiatric interventions.

Aims: To find out various psychiatric comorbidities among patients with hip fracture.

Materials & Methods: The present observational, cross-sectional study was conducted among the patients of hip fracture who were admitted in a tertiary care hospital Jammu. After meeting inclusion and exclusion criteria 68 patients were participated in the study. Psychiatric diagnosis of the patients was made according to DSM 5.

Results: The mean age of studied patients was 80.4(\pm 8.5) years. 54.4% patients in this study were above the age of 80 years. Females were 80.9% whereas 19.1% were males. Total of 57.4% patients were suffering from delirium, 23.5% from dementia and only 19.1% were suffering from depression.

Conclusion: From present study, it has been concluded the most frequent neuropsychiatric comorbidities which occurs in elderly patients with hip fracture are delirium, dementia and depression which were significantly associated with the functional outcome in these patients.

KEYWORDS : Delirium, Hip fracture, Old age.

INTRODUCTION

Hip fractures are the most severe type of fall-related injuries which occurs among elderly patients¹ and causing severe morbidity, mortality and impairment in quality of life.² These fractures causes high rates of admissions and institutionalization after causing much caretaker burden and financial burden. In aging population there is exponential increase in hip fractures which have severe consequences like an increase in hip fracture related admissions to the hospitals and a shift towards an older and frail patient population with comorbid conditions.²

There are two types of hip fractures which includes intra-capsular and extra-capsular. Advancing age is more strongly associated with risk of inter-trochanteric fractures than sub-capital fractures. As the age increases the proportion of the hip fractures rises significantly in females whereas the proportion of inter-trochanteric fractures decreases among men.¹

In general hospital population, the elderly hip fractures are associated with high rates of psychiatric illnesses which have adverse effects on several important outcomes.¹ The most common comorbid conditions associated with hip fractures are depression and dementia.² The impact of these psychiatric illnesses in case of hip fractures can be decreased with appropriate psychiatric interventions.¹ Hence the present study was conducted to find out various psychiatric comorbidities among patients with hip fracture.

METHODOLOGY

The present observational, cross-sectional study was conducted among the patients of hip fracture who were admitted in a tertiary care hospital Jammu. After meeting inclusion and exclusion criteria, 68 patients were participated in the study. Psychiatric diagnosis of the patients was made according to DSM 5.³

Inclusion criteria

- Above 60 years of age
- Both males and female
- Post operative cases of hip fracture seeking psychiatric consultation

Exclusion criteria

- Those who did not give consent

Statistical analysis

Analysis of data was done using statistical software MS Excel / SPSS version 17.0 for windows. Data presented as percentage (%) as discussed appropriate for quantitative and qualitative variables.

Observations and results

Table 1 shows that the mean age of studied patients was 80.4(\pm 8.5) years. 54.4% patients in this study were above the age of 80 years whereas 27.9% were between 71 to 80 years and 17.7% were in age group of 61-70 years. About 80.9% patients were females whereas 19.1% were males. Majority of the patients i.e. 72.1% were widowed followed by 26.5% which were married and 1.4% divorced.

Table 2 shows that 57.4% patients were suffering from delirium, 23.5% from dementia and only 19.1% were suffering from depression.

DISCUSSION

Hip fractures are orthopaedic emergencies that bring with significant morbidity, mortality and medical costs.⁴ They may be associated with psychiatric complications in the elderly which may worsen the prognosis of patients with hip fractures.⁵ Hence the present study was conducted to find out various psychiatric comorbidities among patients with hip fracture.

In the present study 54.4% patients suffering from hip fractures were above the age of 80 years whereas 27.9% belongs to the age group 71-80 years and 17.7% were between the age of 61 to 70 years. Patients above 80 years old may have decreased bone mineral density and bone mass, decreased body size, decreased muscle strength, muscle weakness and atrophy due to inactivity, cognitive impairment, impaired vision, chronic illnesses, history of recurrent falls as compared to younger age group. All these were predisposing risk factors for hip fracture among elderly.⁶ Our finding is in accordance with Gupta P et al who observed that 47.7% patients of hip fractures were between 81 to 90 years and 20% patients were above 90 years old.² Our finding can further be supported by Sullivan KJ et al who observed that 61.7% patients who suffered hip fractures were above 80 years old and 25.2% were between 70 to 79 years old.⁷ Tromp AM et al had also observed similar results.⁸ The mean age of patients in our study is 80.4(±8.5) years which is in accordance with other studies.^{2,7,8,10,11,12,13}

80.9% patients who suffered hip fractures were females and 19.1% were males. Osteoporosis, decreased bone density, depression and history of recurrent falls are the risk factors which predisposes females to have more hip fractures as compared to males.⁷ Gupta et al and Strain JJ et al in their respective studies had found that 82.2% and 79.9% patients who suffered hip fractures were females.^{2,10} Billig N et al had also observed that 80% patients with hip fractures were females⁴ whereas Sullivan KJ et al had found that 72% patients suffering from hip fractures were females.⁷ Other studies had observed similar findings.^{8,11,12,13}

Majority i.e. 72.1% patients were widowed and only 26.5% patients were living with their spouses. Most of the times widowed elderly people are lonelier with no one to hear his/her feelings or to take care of him/her which affects the psychological health badly leading to depression¹⁴ which leads to recurrent falls among elderly causing hip fractures.⁹ Our finding is consistent with Formiga F et al who found that 61.5% patients with fractured hip were widowed¹¹ which can further be supported by Billing et al who observed that the majority of patients suffering from hip fracture were widowed.⁴

The most common psychiatric morbidity present in postoperative patients of hip fracture was delirium which was present in 57.4% patients. The most frequent complication which occurs in elderly patients following operation for hip fracture is postoperative delirium with varying incidence between 16% and 62% and is associated with increased morbidity, increased length of hospitalization and mortality resulting in increased suffering and cost.¹⁵ The pathophysiological mechanisms behind postoperative delirium were multifactorial and unresolved. Many theories which have been put to understand pathophysiology of postoperative delirium include surgical stress responses, hypoglycemia, intoxication by drugs and polypharmacy (especially drugs with anticholinergic effects) including impairment of cerebral metabolism (metabolic encephalopathy), perioperative hypoxemia and hypotension. Other factors which may play a part in the development of

postoperative delirium were sleep deprivation, unrelieved pain, administration of opioids for pain relief and type of anesthesia used during surgery.^{16,17} Our finding is in accordance with Gustafson et al who observed that 62% patients after hip surgery were in delirious state.¹⁸ Similar results were observed by Marcantonio et al and Edlund et al who found that around 50% patients after hip surgery were in delirium.^{19,20} Few studies like Gupta P et al and Nightingale S et al had observed lower incidence (20%) of delirium among postoperative cases of hip fracture.^{2,5}

The second most common comorbid condition associated with patients of hip fracture in this study was dementia which was present in 23.5% patients. Dementia is relatively common among older adults with hip fractures. The mean age of patients with hip fracture in our study was above 80 years and it is this age which have higher prevalence of dementia compared to younger ones. Dementia and cognitive impairment are the risk factors which doubles the risk for hip fractures. The risk factors for hip fracture are osteoporosis and fall-related injuries.¹² As dementia is an independent risk factor for falls among elderly²¹, individuals with dementia were more likely to have repeat injurious falls after one fall²² and are also more likely to suffer a repeat hip fracture after an initial hip fracture.²³ Cognitive impairment and dementia were also associated with both decreases in bone mineral density over time and low bone mineral density predisposing an individual to fractures.²⁴ Our finding is consistent with other studies which had found prevalence of dementia among patients with hip fracture was between 19-40%.^{2,4,5}

Depression was present in about 16.1% of patients with hip injury. Depression is associated with decline in physical health and increased risk of falls resulting in hip fractures among elderly. Elderly with depression lacks energy and prefers to stay indoor resulting in less exposure to environmental conditions which may lead to fracture.³ Gupta P et al and Billig N et al had found that the prevalence of depression was around 26.5%²⁴ whereas Nightingale S et al had found lower prevalence of depression (13%) among the patients with hip fracture.⁵

CONCLUSION

From present study, it has been concluded the most frequent neuropsychiatric comorbidities which occurs in elderly patients with hip fracture are delirium, dementia and depression which were significantly associated with the functional outcome in these patients. The survival and level of functional recovery among these patients can be improved by early detection of these co-morbidities.

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Declaration

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Table 1 shows age, sex and marital status of studied patients

	Number of patients	Percentage
Age (in years)		
61-70	12	17.7
71-80	19	27.9
81-90	37	54.4
>90		
Sex		
Males	13	19.1
Females	55	80.9
Marital status		

Married	18	26.5
Unmarried	0	0
Widowed	49	72.1
Divorced	1	1.4

Table 2 shows psychiatric diagnosis of the studied patients

Psychiatric diagnosis	Number of patients	Percentage
Delirium	39	57.4
Dementia	16	23.5
Depression	13	19.1
Total	68	100

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