

To determine peri-operative mortality in Fracture Neck of Femur in elderly patients [60 years and above] presenting to the Department of Orthopedics at Dr RPGMC Tanda.

Devinder Kumar¹, Bhanu Awasthi², Sarvesh Kumar Singh¹, Sunny Dua¹

Resident¹, Professor & Principal²

Dept of Orthopaedics, Dr. Rajendra Prasad Government Medical College, Kangra, Tanda, Himachal Pradesh, India.

Corresponding Author – Sunny Dua

Abstract

Background-Hip fractures in elderly patients are serious injuries that can lead to immobility and permanent dependence, negatively impacting patients' quality of life and resulting in a financial burden for health systems and societies. Hip fractures can also lead to death.

Methods-The present study was conducted in patients with fractures neck of femur (age 60 years and above) presenting to the Department of Orthopaedics, Dr RPGMC Kangra at Tanda. All cases presenting to the department and fulfilling the criteria were studied for a period of one year starting from the date of start of the study.

Results-In our study, 5 patients died within 90 days of surgery. Perioperative mortality was 5.55%. Overall mortality during one year was 12.2%.

Conclusion-In our study, peri-operative mortality is lower than reported earlier. We also found that perioperative mortality was influenced by presence of co-morbid conditions.

Keywords- Mortality, Hip, Fracture.

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I. Introduction

Hip fractures in elderly patients are serious injuries that can lead to immobility and permanent dependence, negatively impacting patients' quality of life and resulting in a financial burden for health systems and societies. Hip fractures can also lead to death.¹ Mortality rates among the elderly following hip fractures range between 14% and 36% within one year of the injury.^{2,3} During the first three months after hip fracture, elderly patients have a 5- to 8-fold increased risk of dying.⁴ The increased mortality risk persists up to ten years. Because of a predicted increase in life expectancy in western countries over the next decades, hip fractures and their consequences will have an even larger impact on health systems and societies in the future.

Factors that influence prognosis of elderly patients after hip fracture are age, gender, comorbidities, anticoagulation therapy, and general physical health status at the time of injury.⁵ Furthermore, timing of surgery is thought to play an important role regarding survival. Although international clinical practice guidelines recommend surgical treatment of acute hip fracture within 24 to 48 hours after admission, these recommendations are still discussed controversially.^{6,7} Some researchers argue that early surgery can lead to an increased risk of perioperative complications, including pneumonia, deep venous thrombosis, bleeding, pulmonary embolism, urinary tract infections, and decubital ulcerations because clinicians do not have enough time to optimize patients' medical conditions preoperatively.⁸

II. Material And Method

The present study was conducted in patients with fractures neck of femur (age 60 years and above) presenting to the Department of Orthopaedics, Dr RPGMC Kangra at Tanda.

All cases presenting to the department and fulfilling the criteria were studied for a period of one year starting from the date of start of the study. The study was initiated following approval from Institutional Ethics Committee. The patients were given the right to abstain from participation in the study or to withdraw at any time of the study without reprisal.

Inclusion criteria

All patients of fractures neck of femur 60 years and above.

Exclusion criteria

- concomitant trauma involving other systems
- associated fracture of the pelvis
- bilateral hip fracture
- pathological fracture
- did not give consent to participate in the study

After a detailed history, patients were clinically evaluated at the time of admission. Demographic data of the patients such as age, sex, pre-existing co-morbidities, type of fracture, degree of osteoporosis and type of surgical procedure were recorded. For classification of co-morbidities in the study population, the American Society of Anesthesiologist (ASA) score was used which is as follows:

- Patient is a completely healthy fit patient.
- Patient has mild systemic disease.
- Patient has severe systemic disease that is not incapacitating.
- Patient has incapacitating disease that is a constant threat to life.

Statistical analysis

The data were presented as frequency, percentages or mean±SD whereas applicable. Student t-test was used to compare continuous variables between 2 groups. Chi-square test was used to compare categorical variables. P value <0.05 was considered significant. Statistical analysis was performed using SPSS v21.

III. Results

The present study was aimed to determine peri-operative mortality in fractures of neck of femur in the elderly patients presenting to the Department of Orthopaedics at Dr RPGMC Tanda over the period of one year. A total of 90 patients were included in the study. Results of the study have been described below: A total of 90 patients with fracture neck of femur were included in the study over a period of one year. Sociodemographic characteristics include age, sex, residence, and socioeconomic status.

TABLE 1: SOCIODEMOGRAPHIC CHARACTERISTICS OF STUDY PARTICIPANTS (N=90)

Sociodemographic characteristics		n	%
Age (Years)	61-70	44	48.89
	71-80	25	27.78
	81-90	20	22.22
	91-100	1	1.11
Sex	Male	34	37.78
	Female	56	62.22
Residence	Rural	72	80
	Urban	18	20
Kuppuswamy Scale (Urban) (n=18)	I	8	44.45
	II	5	27.78
	III	5	27.78
UdaiPareekh Scale (Rural) (n=72)	I	2	2.78
	II	3	4.16
	III	20	27.78
	IV	43	59.72
	V	4	5.55

Age-based distribution of study participants has been shown in table 1. Our study observed that majority of the patients (n=44/90; 48.9%) were in age-group 61-70 years followed by 27.8% (n=25/90) patients in 71-80 years and 22.2% (n=20/90) in 81-90 years. Only one patient aged above 90 years. Our study observed that majority 62% (n=56/90) of the patients were females while remaining 38% (n=34/90) of the patients were males.

TABLE 2: DISTRIBUTION OF PATIENTS ON THE BASIS OF SURVIVAL (N=90)

	n	%
Mortality within 90 days of surgery	5	5.55
Mortality within one year of surgery	11	12.22
Survived	79	87.78

Table 2 given below summarizes the mortality of the patients within 90 days and one year. In our study, 5 patients died within 90 days of surgery. Perioperative mortality was 5.55%. Overall mortality during one year was 12.2%.

IV. Discussion

The present study was aimed to determine peri-operative mortality in fractures of neck of femur in the patients (age 60 years and above) presenting to the Department of Orthopaedics, Dr RPGMC Kangra at Tanda.

All cases presenting to the department and fulfilling the criteria were studied for a period of one year starting from the date of start of the study. The study was initiated following approval from Institutional Ethics Committee. Patients fulfilling inclusion criteria were evaluated in detail at time of admission. Demographic data of the patients such as age, sex, pre-existing co-morbidities, type of fracture, degree of osteoporosis and type of surgical procedure were recorded.

All data concerning the type of surgery, hospital stay and perioperative mortality was collected. After surgery patients were discharged on the fourth day if the clinical conditions permitted. The telephone number of the investigator was marked on discharge card. The patients were followed up in OPD on the 15th postoperative day for sutures removal and further on 45th and 90th postoperative day for assessment of functional ability.

The queries enquired by the investigator were to investigate the attributable factors for mortality such as death, major cardiac or pulmonary complications, deep vein thrombosis, urinary tract complications, blood loss, surgical wound complications etc.

Hip fractures in elderly patients are serious injuries that can lead to immobility and permanent dependence, negatively impacting patients' quality of life and resulting in a financial burden for health systems and societies. Hip fractures can also lead to death. Mortality rates among the elderly following hip fractures range between 14% to 36% within 1 year of the injury. During the first three months after hip fracture, elderly patients have a 5- to 8-fold increased risk of dying. The increased mortality risk persists up to ten years. Because of a predicted increase in life expectancy in western countries over the next decades, hip fractures and their consequences will have an even larger impact on health systems and societies in the future.

Peri-operative mortality in our study was 5.55%. A meta-analysis reported that the absolute risk of dying within 12 months was 21% in patients who had surgery after 48 hours and 17% in patients who had surgery within 48 hours resulting in a 20% smaller long-term mortality risk in patients operated on within 48 hours.⁹

Foss and Kehlet studied 300 hip fracture patients. They reported that Thirty-day mortality was 13.3% (40 patients) and the total perioperative mortality was 15.6% (47 patients). Low postoperative mortality rates in our study could be associated with selective patient intake, exclusion of patients with pathological fractures, exclusion of patients sustaining fracture while in hospital, exclusion of patients receiving conservative fracture treatment, and finally insufficient follow-up especially after early discharge or transfer to secondary rehabilitation units.¹⁰

V. Conclusion

In our study, peri-operative mortality is lower than reported earlier. We also found that perioperative mortality was influenced by presence of co-morbid conditions.

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