

**Associate mortality among elderly patients [60 years and above] after surgical intervention for trochanteric fractures presenting to the Department of Orthopaedics at Dr. RPGMC Kangra, Tanda.**

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**Abstract**

**Background:** After a proximal femoral fracture, elderly subjects are liable to decompensate their risky preexisting pathological state. The associated complications most frequently encountered are broncho-pulmonary, thromboembolic, infectious, cardiac, urinary tract infection and stroke

**Methods:** Prospective Study conducted at Department of Orthopedics, Dr. R.P.G.M.C. Kangra at Tanda, Himachal Pradesh

**Result:** Our study observed that out of 127 patients, 11% (n=14/127) patients could not survive while 89% (n=113/127) patients survived. Incidence of mortality was 11%.

**Conclusion:** Among group A patients, 4 patients had no co-morbidities. The most common co-morbidity in group A patients was hypertension (n=5).

**Keywords:** Complication, Trochantric fracture, Elderly

**Introduction**

Compared with cervical fractures, trochanteric fractures are associated with advanced age and with higher CCI

score, implying a more fragile group of patients. Hips fracturing at the trochanteric region have been documented to have reduced cortical thickness, bone mineral density, and bone mechanical strength.<sup>1</sup> These fractures can vary in morphology, ranging from simple fractures to highly comminuted, unstable configurations. As these fractures are usually treated with fixation, patients may not be able to bear weight immediately. Longer time from operation to mobilization has been associated with increased rates of complications and mortality after hip fractures. Thus, the association of trochanteric fractures with higher mortality is likely due to its occurrence in older, sicker patients with poorer bone quality.

After a proximal femoral fracture, elderly subjects are liable to decompensate their risky preexisting pathological state. The associated complications most frequently encountered are broncho-pulmonary, thromboembolic, infectious, cardiac, urinary tract infection and stroke.<sup>2</sup> Individuals suffering from intertrochanteric fractures should be mobilized as soon as possible; otherwise, they would be at a risk of serious complications such as bedsores, urinary tract infections, joint stiffness, pneumonia and thromboembolism.<sup>3</sup>

Material and method

### Study area

Department of orthopedics, Dr. RPGMC Kangra at Tanda, Himachal Pradesh.

### Study design

This was an open cohort, prospective study.

### Study population

Patients of age  $\geq 60$  years presenting to the Department of Orthopaedics with fracture trochanteric of femur and undergoing surgical intervention.

### Study duration

The total study duration was one year i.e., from date of start of study. In first 6 months, all patients fulfilling the inclusion criteria were recruited and followed-up for the next six months. The last patient was recruited six-months from the day of start of study.

### Sample size

All patients fulfilling the inclusion criteria were included in the study.

### Inclusion criteria

- Patients of trochanteric fracture.
- Age 60 years and above.
- Those giving consent for inclusion in the study.

### Exclusion criteria

- Concomitant trauma involving other systems.
- Associated fracture of the pelvis.
- Bilateral hip fracture.
- Pathological fracture.
- Who do not give consent

The study was initiated following approval from Institutional Ethics Committee, Dr. RPGMC Kangra at Tanda. The patients had the right to withdraw from participation in the study.

### Results

Among group A patients, 4 patients had no co-morbidities. The most common co-morbidity in group A patients was hypertension (n=5).

Table 1: Co-morbidities (N=127)

Comorbidities	Group A (n=14)	Group B (n=113)	P Value
Hypertension	5	27	32
Diabetes	1	7	8
COPD	1	2	3
TB	0	3	3
CAD	0	2	2

CKD	1	1	2
Bed Sore	0	1	1
Spinocerebellar Ataxia	0	5	5
Prostatomegaly	0	2	2
No	4	59	63
Dementia	0	1	1
Hepatitis B	0	1	1
Delirium	0	1	1
COPD and CAD	0	1	1
COPD and Hypertension	1	0	1
CKD and Hypertension	1	0	1

**Charlson co-morbidity index**

Our study also evaluated Charlson co-morbidity index and found that 17.3% (n=22/127) had the index of more than 1. We also observed that all patients who did not survive, had CCI of more than 1 (P=0.0001).

**Discussion**

Excess mortality after trochanteric hip fracture may be linked to complications following the fracture, such as pulmonary embolism, infections, and heart failure. Factors associated with the risk of falling and sustaining osteoporotic fractures may also be responsible for the excess mortality. Excess mortality after fracture may be due to the individual characteristics of the person sustaining the hip fracture; e.g., low-bone density is associated with increased non-trauma mortality, even without fractures.

The present study determined incidence of mortality among elderly patients [60 years and above] after surgical intervention for trochanteric fractures.

Our finding of a higher number of fractures among females is in line with most of the previous studies and

has an association with osteoporosis.<sup>4</sup> The high age of the patients reflects that there is an increased risk to fall with advanced age, and as these patients often are frail with poor bone-quality there is an increased risk for suffering from a hip fracture even after a low energy fall. Mangram et al. 2014<sup>5</sup> described that 73% of their trochanteric fracture patients fell at home. Similarly, Haginoa et al. 2017<sup>6</sup> reported that an indoors simple fall was the trauma mechanism in 80% of their hip fracture patients, and 85% of them were ≥ 90 years old.

**Conclusion**

Among group A patients, 4 patients had no co-morbidities. The most common co-morbidity in group A patients was hypertension (n=5).

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