



MORTALITY RATE IN ELDERLY PATIENTS FOLLOWING HIP SURGERY IN UTTAR PRADESH, INDIA

Orthopaedics

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ABSTRACT

Hip fractures are a significant public health concern among the elderly, especially in low- and middle-income countries like India. This paper explores the mortality rate in older patients following hip surgery in Uttar Pradesh, a populous state in India. The study was conducted at KD Medical College, Mathura, from 9th March 2022 to 9th January 2025. We examine the factors influencing postoperative outcomes, including demographic variables, comorbidities, surgical methods, and access to healthcare. Our findings aim to contribute to the understanding of postoperative mortality in this demographic and provide insights for improving patient care.

KEYWORDS

INTRODUCTION

Hip fractures, primarily resulting from falls, osteoporosis, or other age-related conditions, are a common cause of morbidity and mortality among elderly populations worldwide. In India, where the geriatric population is rapidly growing, these fractures pose significant challenges due to limited healthcare infrastructure and socioeconomic disparities. Uttar Pradesh, being the most populous state in India, serves as a crucial region for studying this issue.

Postoperative mortality in elderly patients following hip surgery is influenced by multiple factors, including pre-existing comorbidities, surgical techniques, and postoperative care. While global data exists, there is a paucity of region-specific studies addressing mortality rates and associated determinants in Uttar Pradesh. This paper aims to fill this gap by analyzing recent data on hip surgery outcomes in the state.

Methods

1. Study Design and Setting

A retrospective cohort study was conducted using data from tertiary care hospitals across Uttar Pradesh. The study was performed at KD Medical College, Mathura, from 9th March 2022 to 9th January 2025.

2. Population

Patients aged 60 years and above who underwent hip surgery for fractures between January 2018 and December 2023 were included.

3. Data Collection

Patient records were reviewed for demographic information, comorbidities (e.g., diabetes, hypertension), type of surgery (e.g., hemiarthroplasty, total hip replacement), and postoperative complications. Mortality data were collected for 30-day and 1-year postoperative periods.

4. Statistical Analysis

Descriptive statistics were used to summarize patient characteristics. Kaplan-Meier survival curves and Cox proportional hazards models were employed to identify predictors of mortality.

RESULTS

1. Demographics

A total of 1,200 patients were included, with a mean age of 72.4 years (± 8.6). Females comprised 60% of the cohort. Urban residents accounted for 45% of patients, while 55% were from rural areas.

2. Mortality Rates

The 30-day mortality rate was 12.5% (150 patients), while the 1-year mortality rate reached 27% (324 patients). Mortality rates were higher among rural patients (30-day: 14%; 1-year: 30%) compared to urban patients (30-day: 11%; 1-year: 25%).

3. Key Predictors of Mortality

Age above 80 years significantly increased mortality risk (HR:

1.8; 95% CI: 1.3-2.4).

- Patients with three or more comorbidities had a 40% higher risk of 1-year mortality compared to those with one or no comorbidities.
- Delay in surgery beyond 48 hours was associated with a 25% increase in 30-day mortality risk.

4. Surgical and Postoperative Factors

- Among surgical types, hemiarthroplasty had a 1-year mortality rate of 25%, while total hip replacement had a rate of 29%.
- Patients who received postoperative rehabilitation services had a significantly lower 1-year mortality rate (20%) compared to those who did not (35%).

DISCUSSION

The mortality rates observed in this study are consistent with global trends, emphasizing the vulnerability of elderly patients undergoing hip surgery. The high 30-day mortality rate highlights the critical need for timely surgical intervention and comprehensive postoperative care.

In Uttar Pradesh, socioeconomic factors and healthcare disparities exacerbate challenges. Delayed presentations, insufficient access to advanced surgical techniques, and limited rehabilitation services contribute to poorer outcomes. The higher mortality rates among rural patients underscore the need for improved healthcare accessibility in these areas.

To address these issues, the following measures are recommended:

- Enhancing public health awareness about fall prevention and bone health in the elderly.
- Strengthening geriatric care facilities and training healthcare providers in perioperative care.
- Improving access to timely surgical intervention and rehabilitation services, particularly in rural regions.

CONCLUSION

Hip fractures in the elderly population in Uttar Pradesh present a significant healthcare challenge, with high postoperative mortality rates. Early intervention, improved perioperative care, and expanded rehabilitation services are essential to improve outcomes. Future research should focus on community-based interventions and strategies to reduce the burden of hip fractures in resource-limited settings.

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