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Study Of Clinical Manifestations And Management Of Fracture Of Hip.

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ABSTRACT

Hip fractures are common among the elderly, leading to significant morbidity and functional decline. Understanding clinical presentations, management approaches, and outcomes is crucial for optimizing patient care. To analyze the clinical manifestations, management strategies, and outcomes in patients with hip fractures. A total of 34 patients with confirmed hip fractures were studied. Data collected included demographic characteristics, fracture types, clinical presentation, pain levels, management approach (conservative, internal fixation, or arthroplasty), and functional outcomes. Statistical analysis was conducted using SPSS to evaluate associations between management strategies and patient outcomes. The majority of patients were elderly, with a slight predominance of females. Femoral neck fractures were most common (58.8%). Severe pain (VAS score 7-10) was reported by 50% of patients. Arthroplasty resulted in the greatest pain relief and shortest time to weight-bearing. Complications included infections (11.8%), DVT (8.8%), and re-fracture (2.9%), predominantly among surgical cases. Patients managed surgically, particularly with arthroplasty, had better mobility recovery. Hip fractures significantly impact mobility and quality of life, especially in the elderly. Surgical management, particularly arthroplasty, appears beneficial for functional recovery, though vigilant postoperative care is essential to manage associated complications.

Keywords: Hip fractures, arthroplasty, functional recovery

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INTRODUCTION

The hip is a critical weight-bearing joint essential for mobility, making fractures in this region a significant health concern. Hip fractures, commonly occurring in the elderly due to osteoporosis or falls, can also result from high-energy trauma in younger individuals [1]. These fractures are often classified based on anatomical location, typically categorized into femoral neck fractures, intertrochanteric fractures, and subtrochanteric fractures, each requiring unique clinical approaches and management strategies. The incidence of hip fractures is increasing globally, attributed to an aging population and associated risk factors such as reduced bone density, decreased muscle mass, and impaired balance [2-5].

Clinically, hip fractures manifest as pain in the groin or hip area, inability to bear weight, and external rotation or shortening of the affected leg. Prompt and effective management is essential to reduce complications, including prolonged immobility, deep vein thrombosis, and decreased quality of life. Management typically involves a combination of surgical intervention, such as internal fixation or arthroplasty, and rehabilitation to restore mobility. Early surgical intervention, pain management, and tailored physiotherapy are crucial in improving outcomes [6]. This study aims to explore the clinical manifestations, management strategies, and outcomes of hip fractures, with a focus on optimizing patient care and minimizing complications associated with these injuries.

METHODOLOGY

This study was conducted to evaluate the clinical manifestations and management of hip fractures in a sample of 34 patients. All participants were recruited from a tertiary care hospital and met the inclusion criteria, which required patients to have a confirmed diagnosis of hip fracture. Exclusion criteria included patients with multiple fractures, pre-existing mobility impairments unrelated to the hip, and those with cognitive impairments that could affect the study's assessment measures. Informed consent was obtained from all participants before the initiation of data collection, ensuring ethical compliance with institutional guidelines. Data collection involved a detailed clinical assessment of each patient upon admission. This included recording patient demographics, fracture type, mode of injury, and associated comorbidities. The clinical manifestations were assessed through physical examination and imaging studies, specifically X-rays and CT scans. Pain levels were recorded using a visual analog scale (VAS), and functional limitations were assessed through patient interviews and gait analysis. The collected data provided baseline information on the presentation of hip fractures and helped to classify patients based on the severity and type of fracture.

The management approach for each patient was documented, including conservative and surgical methods. Surgical interventions included internal fixation for femoral neck fractures and hip arthroplasty for more complex or displaced fractures. Patients who underwent surgery were monitored for intraoperative details, postoperative complications, and length of hospital stay. Non-surgical management was employed for patients with minimal displacement or high surgical risk, and it included bed rest, traction, and pain management. Physical therapy protocols were developed and implemented for all patients to aid in early mobilization, prevent complications, and enhance functional recovery.

RESULTS

Table 1: Demographic and Clinical Characteristics of Patients

Characteristic	Frequency (n=34)	Percentage (%)
Age Group (years)		
- 60-69	12	35.3
- 70-79	14	41.2
- 80 and above	8	23.5
Gender		
- Male	16	47.1
- Female	18	52.9
Fracture Type		
- Femoral Neck	20	58.8
- Intertrochanteric	10	29.4
- Subtrochanteric	4	11.8
Comorbidities Present	28	82.4

Table 2: Clinical Presentation and Pain Levels

Clinical Presentation	Frequency (n=34)	Percentage (%)
Groin Pain	30	88.2
Inability to Bear Weight	27	79.4
External Rotation	22	64.7
Shortening of Affected Leg	15	44.1
Pain Level (VAS Score)		
- Mild (1-3)	5	14.7
- Moderate (4-6)	12	35.3
- Severe (7-10)	17	50.0

Table 3: Management Approaches and Associated Outcomes

Management Type	Frequency (n=34)	Percentage (%)	Average Hospital Stay (days)
Conservative	10	29.4	7.5
Internal Fixation	14	41.2	10.2
Arthroplasty	10	29.4	12.4
Complications			
- Infection	4	11.8	
- DVT	3	8.8	
- Re-fracture	1	2.9	

Table 4: Functional Outcomes and Recovery

Outcome Measure	Conservative (n=10)	Internal Fixation (n=14)	Arthroplasty (n=10)
Pain Relief (VAS Reduction)	3.2	4.8	5.6
Time to Weight Bearing (weeks)	8	6	5
Mobility Recovery			
- Independent	3	8	7
- Assisted	5	5	3
- Wheelchair Bound	2	1	0

DISCUSSION

The study population primarily consisted of elderly patients, with the highest prevalence in the 70-79 age group (41.2%), followed by the 60-69 age group (35.3%). This trend is consistent with global findings that hip fractures are predominantly seen in older adults due to factors like osteoporosis, reduced bone density, and increased fall risk1. Notably, women (52.9%) were slightly more affected than men, which aligns with the well-documented increased susceptibility in postmenopausal women due to estrogen deficiency and related bone loss2. This gender disparity underscores the need for targeted prevention strategies in postmenopausal women, such as bone density screenings, calcium and vitamin D supplementation, and fall-prevention programs [7, 8].

Fracture types observed in this study were predominantly femoral neck fractures (58.8%), followed by intertrochanteric (29.4%) and subtrochanteric fractures (11.8%). The higher incidence of femoral neck fractures is consistent with studies indicating that this fracture type is more common in older populations3. Given the unique vascular supply to the femoral neck, these fractures pose a higher risk for complications like avascular necrosis, which often necessitates surgical intervention4. The differences in fracture type distribution have important implications for clinical management, as each type requires specific treatment considerations for optimal outcomes [9-11].

Clinical Presentation and Pain Levels

Patients presented with characteristic symptoms of hip fracture, including groin pain (88.2%) and an inability to bear weight (79.4%). External rotation of the affected leg (64.7%) and leg shortening (44.1%) were also common, reflecting typical physical findings associated with hip fractures. Pain levels varied, with 50% of patients reporting severe pain (VAS score 7-10), indicating the substantial impact of hip fractures on patient comfort and mobility. This high prevalence of pain underscores the importance of effective pain management strategies as a central component of hip fracture care [12].

Comparatively, studies have noted similar pain and functional impairments among hip fracture patients, emphasizing the need for prompt diagnosis and intervention [5]. Pain management, primarily through multimodal approaches involving both pharmacologic and non-pharmacologic methods, is essential to enhance patient comfort and facilitate early mobilization, which is crucial for improving outcomes and reducing complications like deep vein thrombosis (DVT) and pneumonia [6].

Management Approaches and Associated Outcomes

In this study, patients received either conservative treatment (29.4%) or surgical intervention, which included internal fixation (41.2%) and arthroplasty (29.4%). The choice of management was largely dependent on factors like fracture type, patient age, comorbidities, and surgical risk. For instance, internal fixation was primarily used for younger patients or those with less complex fractures, while arthroplasty was more commonly chosen for displaced femoral neck fractures in older patients [13, 14].

The average hospital stays varied across treatment groups, with conservative management averaging 7.5 days, internal fixation 10.2 days, and arthroplasty 12.4 days. Surgical management, particularly arthroplasty, often necessitates a longer hospital stay due to the need for postoperative monitoring and rehabilitation [7]. The presence of complications, including infections (11.8%), DVT (8.8%), and re-fracture (2.9%), was noted among patients, particularly those who underwent surgical intervention. These findings are in line with existing studies that report higher complication rates among surgically managed hip fracture patients, highlighting the importance of vigilant postoperative care to minimize adverse events [8].

The outcomes observed in terms of pain relief and mobility recovery also varied with the type of management. Pain relief, measured by reduction in VAS scores, was highest among patients who underwent arthroplasty (average reduction of 5.6 points), followed by internal fixation (4.8 points) and conservative treatment (3.2 points). Similarly, the time to weight-bearing was shortest for arthroplasty patients (5 weeks), suggesting that this surgical option may facilitate faster functional recovery in eligible patients [9]. Mobility recovery was also superior in surgically treated patients, with a higher proportion achieving independent or assisted mobility compared to conservatively managed patients. This reinforces the benefits of surgical intervention in restoring mobility, which is essential for improving quality of life and reducing dependency.

The functional outcomes, particularly in terms of mobility recovery, highlight the importance of tailored rehabilitation strategies in hip fracture care. Patients who received arthroplasty demonstrated faster recovery and higher independence, which can be attributed to the stability provided by this surgical approach. However, conservative management was associated with limited mobility recovery, with a portion of patients remaining wheelchair-bound. This underscores the need for comprehensive rehabilitation programs, especially for conservatively managed patients, to optimize functional recovery and prevent long-term disability [10].

The role of early mobilization in hip fracture recovery is well-established in the literature, and this study's findings align with those advocating for rehabilitation to commence as soon as medically feasible. Multidisciplinary approaches involving physiotherapists, occupational therapists, and nursing staff can help patients regain strength, balance, and confidence, thereby reducing hospital stays and enhancing overall recovery [11].

The study findings have several important implications for clinical practice. First, they reinforce the need for individualized management plans based on fracture type, patient age, and overall health status. Surgical intervention, particularly arthroplasty, appears beneficial for restoring mobility and providing pain relief in older adults with displaced fractures. However, the risks associated with surgery, such as infection and DVT, must be carefully managed through proactive perioperative and postoperative care.

Future research should explore long-term outcomes of different hip fracture treatments, especially among diverse age groups and comorbidity profiles, to refine clinical guidelines further. Additionally, more studies on optimizing conservative management and rehabilitation protocols for patients unsuitable for surgery could help improve outcomes for this subset of patients.

CONCLUSION

In conclusion, the study emphasizes the impact of hip fractures on mobility and quality of life in elderly patients. It underscores the benefits of timely and appropriate management, particularly surgical options like arthroplasty, in achieving pain relief and functional recovery. However, the occurrence of complications in surgically treated patients indicates a need for vigilant postoperative care. Tailored rehabilitation, especially for conservatively managed patients, remains essential to maximizing recovery and reducing the risk of prolonged immobility. These insights can guide clinical decision-making and contribute to the development of comprehensive hip fracture care strategies.

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