IJMRP

International Journal of Medical Research Professionals

Original Article

Assessment of Hip Bone Fracture among Different Age Groups: A Clinical Study

M R Chandrashekaran
Associate Professor, Department of Orthopaedics,
Dr. B. R. Ambedkar Medical College, Bengaluru, Karnataka, India.

Article History
Received: 07 Aug 2015
Revised: 04 Sept 2015
Accepted: 22 Sept 2015

***Correspondence to:**
M R Chandrashekaran
Associate Professor,
Department of Orthopaedics,
Dr. B. R. Ambedkar Medical College,
Bengaluru, India.

ABSTRACT

Background: Hip fractures are very common among elders, the reason being the weight bearing area of the body. The present study was conducted to assess the hip fractures in different age groups in study population.

Materials & Methods: The present study was conducted on 160 patients which were divided into 4 age groups. Group I, group II, group III, group IV and group V.

Results: Out of 160 patients, males were 100 and females were 60. The difference was significant. Group I had 20 patients, group II had 60 patients, group III had 50 patients and group IV had30 patients. The difference was significant. Ambulatory prior to fracture, femoral neck fracture, dementia, anemia, abnormal electrolyte, lung function and abnormal ECG was statistical significant in all groups.

Conclusion: Hip bone is a weight bearing bone and hence the chances of fracture are quite common especially among olders. The incidence of fracture is increasing significantly. Anemia, abnormal electrolytes, lung functions and dementia are characteristic features in patients with hip fracture.

KEYWORDS: Dementia, Hip Fractures, Lung Functions.

INTRODUCTION

Hip bone is weight bearing bone of the body. In elders, due to bone resorption as a normal procedure the chances of fractures increase. Hip fractures are very common among elders. The number of elderly aged 60 years or above was 28.25 million in 2012. The proportion of the elderly population continues to rise and is expected to reach 35% in 2022.[1] Accompanying this trend, the number of hip fractures also increases and the number of elderly patients with impaired walking ability or becoming bed-ridden after treatment is anticipated to increase.

A hip fracture is a break that occurs in the upper part of the femur. Symptoms may include pain around the hip particularly with movement and shortening of the leg. Usually the person cannot walk. Potential complications vary with the degree of trauma energy and include open fractures requiring coverage procedures, compartment syndrome and neurovascular injury. The classic clinical presentation of a hip fracture is an elderly patient who sustained a low-energy fall and now has groin pain and is unable to bear weight. Pain may be referred to the supracondylar knee. On examination, the affected extremity is often shortened and unnaturally, externally rotated compared to the unaffected leg.[2]

There are no specific guidelines for the management of proximal hip fracture. Patient age and the quality of fracture reduction have been reported as risk factors for failure of internal fixation. Biomechanical studies have suggested that placement of a screw strengthens the construct but an optimal position for screw placement has not been proven.[3] The present study was conducted to assess the hip bone fractures in different age groups.

MATERIALS & METHODS

The present study was conducted in the department of orthopaedics, Dr. B. R. Ambedkar Medical College, Bengaluru, Karnataka, India. Ethical approval was obtained from institutional ethical committee and written consent was obtained after explaining in detail the entire research protocol. It included 160 patients of both gender with hip fractures. Complete demographic profile of the patients was recorded. General information such as name, age, gender etc. was noted. Patients were divided into four age groups. The type of fractures, electrolyte imbalance, lung function etc. was recorded. All the data were recorded on mocrosoft excel sheet. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

Graph I: Age distribution of patients

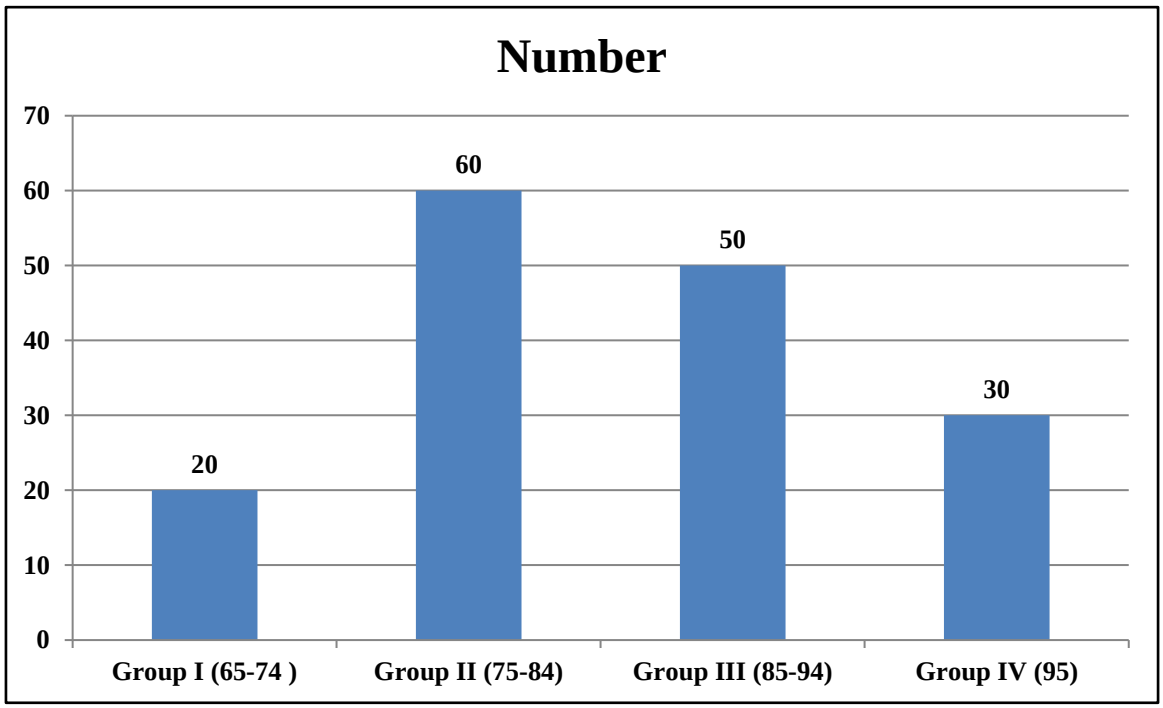
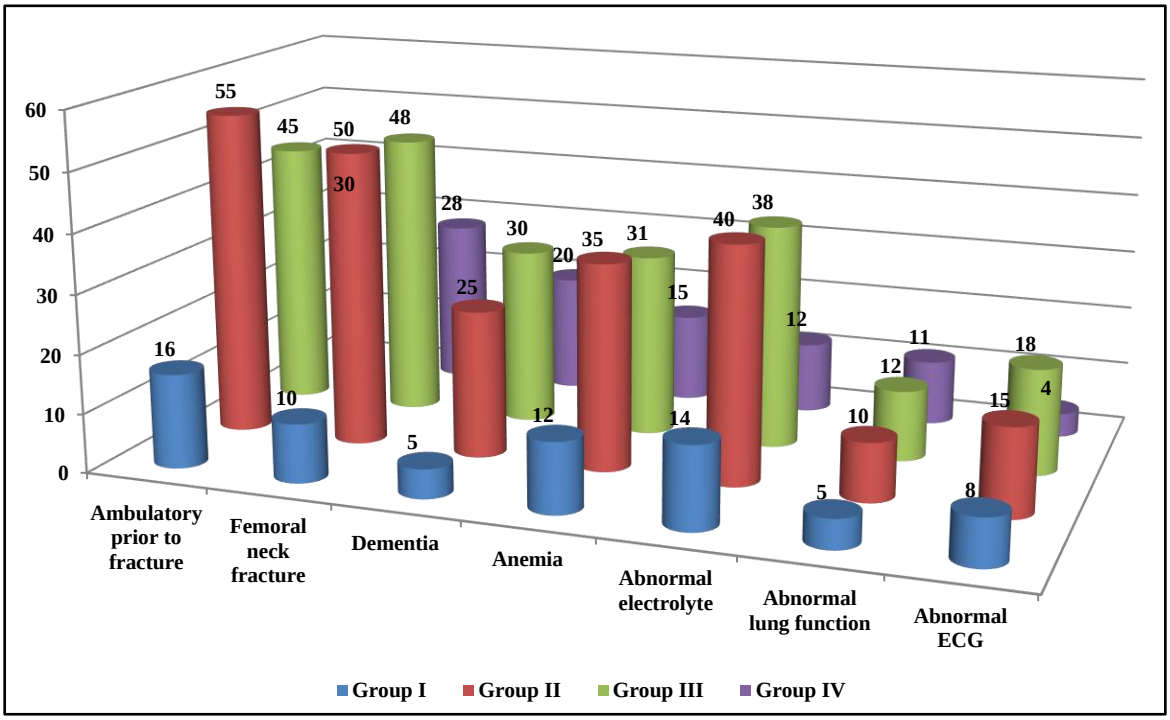


Table II: Characteristic of Different group in patients

Characterstic	Group I	Group II	Group III	Group IV
Ambulatory prior to fracture	16	55	45	30
Femoral neck fracture	10	50	48	28
Dementia	5	25	30	20
Anemia	12	35	31	15
Abnormal electrolyte	14	40	38	12
Abnormal lung function	5	10	12	11
Abnormal ECG	8	15	18	4

Graph II: Characteristic of patients



RESULTS

Out of 160 patients, males were 100 and females were 60. Graph I shows that age group I (65- 74 years) had 20 patients, group II (75-84 years) had 60 patients, group III (85-94 years) had 50 patients and group IV (>95 years) had 30 patients. The difference was significant (P- 0.01). Graph 2 shows that ambulatory prior to fracture, femoral neck fracture, dementia, anemia, abnormal electrolyte, lung function and abnormal ECG was statistical significant in all groups.

DISCUSSION

Elderly due to reduction in physical exercise and osteoporosis are more like to encounter fractures of bone. Hip joint is weight bearing joint and in obese subjects fractures are more likely to occur. With advancing age, the prevalence of fractures increases. Therefore, in conducting treatment for hip fractures, it is important to know the patient characteristics and the prognosis in different age groups of the elderly population. Fractures are commonly seen following road accidents, fall from building or tree, fight etc. Long bone fractures are commonly seen during road side accidents. Fracture of the hip bone contributes significant of all fractures.[4] Several radiographs are required apart from thorough clinical examination. It includes plain film radiography and a Computerized Tomographic (CT) scan. Nowadays, CT scan is the choice and now considered as the 'gold standard' in both evaluation and treatment planning. Typically, radiographs are taken of the hip from the front (AP view), and side (lateral view). Frog leg views are to be avoided, as they may cause severe pain and further displace the fracture. In situations where a hip fracture is suspected but not obvious on x-ray, an MRI is the next test of choice. If an MRI is not available or the patient cannot be placed into the scanner a CT may be used as a substitute.[5]

Management of fracture is controversial. Historically closed reduction was the method of choice for management of all hip fractures. In this study, out of 160 patients, males were 100 and females were 60. We found that maximum patients were seen in age group 85-94 years (60) followed by age group 75-84 years (50), age group 65- 74 years (20) and group IV (>95 years) had 30 patients. This is in agreement with Gupta.[6] We found that there was significant difference between all groups regarding femoral neck fracture, dementia, anemia, abnormal electrolyte, lung function and abnormal ECG. This is similar to Ashok et al.[7] Arinzon[8] in their study found that among those ambulatory before injury, 42 patients in group A, 139 patients in group B, 130 patients in group C, and 12 patients in group D underwent surgery and of these patients, 38 patients (90.5%) in group A, 109 patients (78.4%) in group B, 83 patients (63.8%) in group C, and 5 patients (41.7%) in group D were ambulatory at discharge. Walking ability in surgical patients than in conservatively treated patients even in the elderly.

Damle et al.[9] compared the young elderly aged 65-74 years and the elderly aged 85 years and older with hip fractures. Their study showed that the elderly patients were more functional-dependent before fracture, had more comorbid diseases and had malnutrition as shown by low hemoglobin and serum albumin levels, and their functional outcome was poor. We have also reported that the status of anemia and dementia at admission is closely related to functional outcome.

In Conclusion; hip bone is a weight bearing bone and hence the chances of fracture are quite common especially among olders. The incidence of fracture is increasing significantly. Anemia, abnormal electrolytes, lung functions and dementia are characteristic features in patients with hip fracture.

REFERENCES

1. Hagino T, Ochiai S, Wako M, Sato E, Maekawa S, Hamada Y. Comparison of the prognosis among different age groups in elderly patients with hip fracture. Indian Journal of Orthopaedics. 2008;42(1):29-32.
2. Hashimo T, Maekawa S, Sato E, Bando K, Hamada Y. Prognosis of proximal femoral fracture in patients aged 90 years and older. J Orthop Surg 2006; 14:122-6.
3. Mange T, Sato E et al.Prediction of ambulation prognosis in the elderly after hip fracture. Int Orthop 2006; 30:315-9.
4. Ashin, Ochiai S, Wako M, Sato E, Maekawa S, Senga S, et al. A simple scoring system to predict ambulation prognosis after hip fracture in the elderly. Arch Orthop Trauma Surg 2007;127:603-6.
5. Betek, Sato E, Maekawa S et al. Poor prognosis in elderly patients receiving nonoperative treatment for hip fracture: A study of 224 cases at Kofu National Hospital. Yamanashi Med J 2005; 20:37-41.
6. Gupta et al. A simple scoring system to predict ambulation prognosis after hip fracture in the elderly. Arch Orthop Trauma Surg 2007; 127:6-10.
7. Ashok et al. 1000 femoral neck fractures: The effect of pre-injury mobility and surgical experience on outcome. Injury 1994; 25:91-5.
8. Arinzon, Hasegawa Y et al. Functional outcome after hip fracture in Japan. Clin Orthop Relat Res 1998; 29-36.
9. Damle et al. Influence of age, sex, fracture type and prefracture living on rehabilitation pattern after hip fracture in the elderly. Disabil Rehabil 2005;27:1091-7.

How to cite the article: M R Chandrashekaran. Assessment of Hip Bone Fracture among Different Age Groups: A Clinical Study. Int J Med Res Prof. 2015, 1(2); 104-06.