(e) ISSN Online: 2321-9599
(p) ISSN Print: 2348-6805
SJIF (Impact factor) 2017= 6.261
Index Copernicus value = 80.90

ORIGINAL ARTICLE

Evaluation of outcome among patients with Concomitant Fractures with Hip Fractures

[1]Deepak Kumar Sharma, [2]Deepak Kumar Arora

[1]Assistant Professor, Department of General Surgery, Saraswathi Institute of Medical Sciences, Hapur, Uttar Pradesh, India;
[2]Assistant Professor, Department of Orthopaedics, Saraswathi Institute of Medical Sciences, Hapur, Uttar Pradesh, India

ABSTRACT:
Background: The present study was conducted for evaluating outcome among patients with Concomitant Fractures with Hip Fractures.**Materials & methods:**We evaluated data of 100 patients who underwent treatment for proximal femoral fractures. Data of only those patients were enrolled whose follow-up details upto one year was available. Among these 100 patients, 80 patients were of single hip fracture while 20 patients were of concomitant fractures. Surgical treatment of all the hip fractures with either internal fixation or hip arthroplasty. Mobilization was performed daily from the first postsurgical day. Postoperative radiographs of the fractured hip and, if present, of the concomitant fracture were routinely obtained. Surgical complications were recorded. All the results were recorded in Microsoft excel sheet followed by statistical analysis using SPSS software.**Results:**Mean age of the patients without and with concomitant fractures was 75.3 years and 72.1 years respectively. Among patients without concomitant fractures, Hematoma, Pleural infusion, Deep wound infection, Failure of osteosynthesis, Postoperative hemorrhage and Electrolyte imbalance was seen in 6.25 percent, 2.5 percent, 1.25 percent, 1.25 percent, 2.5 percent and 3.75 percent of the patients. Among the patients with concomitant fractures, hematoma and electrolyte balance was seen in 1 patient each. Non-significant results were obtained while comparing the complications among patients of both the study groups.**Conclusion:** Patients' ability to function was not significantly impacted by concomitant hip fractures. Surgical treatment of the concomitant fracture may potentially expedite functional recovery.
Key words: Hip, Fracture

Corresponding author: Deepak Kumar Arora, Assistant Professor, Department of Orthopaedics, Saraswathi Institute of Medical Sciences, Hapur, Uttar Pradesh, India

This article may be cited as: Sharma DK, Arora DK. Evaluation of outcome among patients with Concomitant Fractures with Hip Fractures. J Adv Med Dent Scie Res 2017;5(12):176-178.

INTRODUCTION

Hip fracture is one of the most serious and costly fall-related injuries sustained by older people in the public health system. There were an estimated 17 000 hip fractures among Australians aged 65 years and older in 2008–2009, accounting for 21.6% of all fall injury hospitalizations and incurring an estimated AUD$579 million in direct hospital costs. The quality of care and outcomes following hip fracture have been shown to be dependent on a number of issues relating to structures, processes and service configurations.[1- 3]

A hip fracture results in pain, bleeding and immobility. These factors initiate inflammatory, hypercoagulable, catabolic and stress states that can precipitate medical complications. Early surgery shortens the exposure to these harmful states and, therefore, may reduce morbidity and mortality. Furthermore, earlier surgery may shorten the period of immobility, which may improve functional outcomes and reduce costs.A meta-analysis of observational studies evaluating the timing of surgery for a hip fracture included 5 studies that reported the adjusted risk of mortality. Earlier surgery, irrespective of the cut-off for delay, was associated with significantly lower mortality. Although these data are encouraging, the apparent benefit may be a result of residual confounding. Conversely, the real potential of early surgery may be underestimated because the greatest impact may occur when a hip fracture is treated much more quickly than the timelines assessed in the observational studies, similar to how treatment of an acute myocardial infarction or stroke within hours has the most dramatic impact.[4- 7]Hence; the present study was conducted for evaluating outcome among patients with Concomitant Fractures with Hip Fractures.

MATERIALS & METHODS

The present study was conducted for evaluating outcome among patients with Concomitant Fractures with Hip Fractures. We evaluated data of 100 patients who underwent treatment for proximal femoral fractures. Data of only those patients were enrolled whose follow-up details upto one year was available. Among these 100 patients, 80 patients were of single hip fracture while 20 patients were of concomitant fractures. Ethical approval was obtained from institutional ethical committee and written consent was obtained from all the patients after a explaining in detail the entire research protocol. Complete demographic and clinical details of all the subjects was obtained. Detailed clinical and medical history of all the subjects was also recorded separately.Surgical

treatment of all the hip fractures with either internal fixation or hip arthroplasty. Mobilization was performed daily from the first postsurgical day. Postoperative radiographs of the fractured hip and, if present, of the concomitant fracture were routinely obtained. Surgical complications were recorded. All the results were recorded in Microsoft excel sheet followed by statistical analysis using SPSS software. Chi-square test was used for evaluation of level of significance.

RESULTS

Mean age of the patients without and withconcomitant fractures was 75.3 years and 72.1 years respectively. Majority proportion of patients with and without concomitant fractures were males. Among patients without concomitant fractures, Hematoma, Pleural infusion, Deep wound infection, Failure of osteosynthesis, Postoperative hemorrhage and Electrolyte imbalance was seen in 6.25 percent, 2.5 percent, 1.25 percent, 1.25 percent, 2.5 percent and 3.75 percent of the patients. Among the patients with concomitant fractures, hematoma and electrolyte balance was seen in 1 patient each. Non-significant results were obtained while comparing the complications among patients of both the study groups.

Table 1: Demographic data

Variable		Patients without concomitant fractures (n=80)	Patients with concomitant fractures (n=20)
Mean age (years)		75.3	72.1
Gender	Males	53	13
	Female	27	7
Hip fracture side	Right	45	12
	Left	35	8

Table 2: Incidence of complications

Complications	Patients without concomitant fractures (n=80)		Patients with concomitant fractures (n=20)		p-value
	Number	Percentage	Number	Percentage	
Hematoma	5	6.25	1	5	0.384
Pleural infusion	2	2.5	0	0	
Deep wound infection	1	1.25	0	0	
Failure of osteosynthesis	1	1.25	0	0	
Postoperative hemorrhage	2	2.5	0	0	
Electrolyte imbalance	3	3.75	1	5	
Overall	12	15	2	10	

DISCUSSION

Hip fractures cause significant morbidity and are associated with increased mortality. Women experience 80% of hip fractures, and the average age of persons who have a hip fracture is 80 years. Most hip fractures are associated with a fall, although other risk factors include decreased bone mineral density, reduced level of activity, and chronic medication use. Patients with hip fractures have pain in the groin and are unable to bear weight on the affected extremity. During the physical examination, displaced fractures present with external rotation and abduction, and the leg will appear shortened. Plain radiography with cross-table lateral view of the hip and anteroposterior view of the pelvis usually confirms the diagnosis. If an occult hip fracture is suspected and plain radiography is normal, magnetic resonance imaging should be ordered.[7- 10]Hence; the present study was conducted for evaluating outcome among patients with Concomitant Fractures with Hip Fractures.

Mean age of the patients without and with concomitant fractures was 75.3 years and 72.1 years respectively. Majority proportion of patients with and without concomitant fractures were males. Among patients without concomitant fractures, Hematoma, Pleural infusion, Deep wound infection, Failure of osteosynthesis, Postoperative hemorrhage and Electrolyte imbalance was seen in 6.25 percent, 2.5 percent, 1.25 percent, 1.25 percent, 2.5 percent and 3.75 percent of the patients. Hip fracture has an overall 1 year mortality rate that varies from 14% to 36% among patients aged 65 or above, being higher among men and women, especially after 5 to 10 years after fracture, and in addition, the survivors have a shorter life expectancy. Mortality is significantly influenced by preoperative cognitive state, medical comorbidities and mobility. Dementia, chronic obstructive pulmonary disease, chest infection, heart failure, anemia, abnormal sodium (low or raised), elevated urea, elevated creatinine and malignancy, have all been described as risk factors for increased mortality in the months following a hip fracture. Patients with an acute heart failure or a postoperative chest infection had a high 30-d mortality of 65% and 43%, respectively. However, postoperative complications increase short and long-term

mortality.From the anesthetic and surgical point of view, patients with a high ASA score and patients treated non-operatively have a higher mortality rate. Patients operated within 48 h appear to have a better outcome than those with a delayed surgical intervention. However, in medically unstable patients, a delay of surgery does not result in a statistically significant difference in mortality compared to patients treated surgically.[9- 13]

In the present study, among the patients with concomitant fractures, hematoma and electrolyte balance was seen in 1 patient each. Non-significant results were obtained while comparing the complications among patients of both the study groups.Zeltzer J et al examined factors affecting time to surgery for hip fracture extracted from existing administrative datasets. A total of 49,317 hip fracture procedures were recorded. Sixty-four per cent of patients received operative treatment on the day of or day after admission. Co-morbidity, type of surgical procedure and day of presentation all impacted significantly on time to surgery. Fourteen per cent required an inter-hospital transfer prior to receiving operative intervention. Transferred patients were 2.6 times more likely to wait 2-4 days and 3.2 times more likely to wait 5 or more days for surgery compared with patients presenting to an operating hospital.Significant variation exists between hospitals in the time to surgery that is not solely explained by measures of case mix or geography.[14] In another previous study conducted by Buecking B et al, authors determined the incidence, type and treatment of concomitant fractures accompanying hip fractures. They retrospectively reviewed 402 patients older than 60 years with hip fractures. Twenty-two patients (5%) had concomitant fractures, the most frequent being proximal humeral fractures (n = 8) and distal radius fractures (n = 6). Patients without and with concomitant fractures had similar lengths of hospitalization, in-hospital mortality (5% with concomitant fractures, 6% without concomitant fractures), and incidence of complications (41% versus 40%). Function at discharge and last follow-up were similar in both groups.[15]

CONCLUSION

From the above results, the authors concluded that the patients' ability to function was not significantly impacted by concomitant hip fractures. Surgical treatment of the concomitant fracture may potentially expedite functional recovery.

REFERENCES

1. Bradley C. Hospitalisations Due to Falls in Older People, Australia 2008–09. Canberra: Australian Institute of Health and Welfare, 2012.
2. ANZHFR. Australian & New Zealand Hip Fracture Registry. [Cited 5 February 2013.] Available from URL: http://www.anzhfr.org/
3. Brown P, McNeill R, Leung W, Radwan E, Willingale J. Current and future economic burden of osteoporosis in New Zealand. Appl. Health Econ. Health Policy 2011; 9: 111–23
4. Tsangari H, Findlay DM, Kuliwaba JS, et al. Increased expression of IL-6 and RANK mRNA in human trabecular bone from fragility fracture of the femoral neck. Bone 2004;35:334–42
5. Simunovic N, Devereaux PJ, Sprague S, et al. Effect of early surgery after hip fracture on mortality and complications: systematic review and meta-analysis. CMAJ 2010;182:1609–16
6. Hacke W, Donnan G, Fieschi C, et al. Association of outcome with early stroke treatment: pooled analysis of ATLANTIS, ECASS, and NINDS rt-PA stroke trials. Lancet 2004;363:768–74
7. Ryan TJ, Anderson JL, Antman EM, et al. ACC/AHA guidelines for the management of patients with acute myocardial infarction: executive summary. A report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Committee on Management of Acute Myocardial Infarction). Circulation 1996;94:2341–50
8. LeBlanc KE, Muncie HL Jr, LeBlanc LL. Hip fracture: diagnosis, treatment, and secondary prevention. Am Fam Physician. 2014;89(12):945-951.
9. Orwig DL, Chan J, Magaziner J. Hip fracture and its consequences: differences between men and women. Orthop Clin North Am. 2006;37:611–622.
10. Bateman L, Vuppala S, Porada P, Carter W, Baijnath C, Burman K, Lee R, Hargus J. Medical management in the acute hip fracture patient: a comprehensive review for the internist. Ochsner J. 2012;12:101–110
11. Chong CP, Savige JA, Lim WK. Medical problems in hip fracture patients. Arch Orthop Trauma Surg. 2010;130:1355–1361.
12. Menzies IB, Mendelson DA, Kates SL, Friedman SM. The impact of comorbidity on perioperative outcomes of hip fractures in a geriatric fracture model. Geriatr Orthop Surg Rehabil. 2012;3:129–134
13. Sciard D, Cattano D, Hussain M, Rosenstein A. Perioperative management of proximal hip fractures in the elderly: the surgeon and the anesthesiologist. Minerva Anestesiol. 2011;77:715–722
14. Zeltzer J, Mitchell RJ, Toson B, Harris IA, Close J. Determinants of time to surgery for patients with hip fracture [published correction appears in ANZ J Surg. 2015 Mar;85(3):200]. ANZ J Surg. 2014;84(9):633-638. doi:10.1111/ans.12671
15. Buecking, B., Wack, C., Oberkircher, L., Ruchholtz, S., & Eschbach, D. (2012). Do concomitant fractures with hip fractures influence complication rate and functional outcome?. Clinical orthopaedics and related research, 470(12), 3596–3606.