(e) ISSN Online: 2321-9599

(p) ISSN Print: 2348-6805

ORIGINAL ARTICLE

Assessment of profile of patients with Femoral Shaft Fractures: An observational study

Shashi Pal Sadana

Associate Professor, Department of Orthopaedics, Major S D Singh Medical College & Hospital, Farrukhabad, Uttar Pradesh, India

ABSTRACT:

Background: The present study was conducted for assessing the profile of patients with Femoral Shaft Fractures. **Materials & methods:** A total of 50 patients with femoral shaft fracture were included in the present study. Written consent was obtained from all the patients after explaining in detail the entire research protocol. Complete demographic details of all the patients were obtained. A Performa was made and complete medical and clinical history of all the patients was recorded. Clinical and radiographic examination of all the patients was done and findings were recorded. All the results were recorded in Microsoft excel sheet and were subjected to statistical analysis. **Results:** Distal third fractures were seen in 10 percent of the patients. Transverse fracture was seen in 24 percent of the patients while short oblique fracture was seen in 36 percent of the patients. Spiral fracture was seen in 10 percent of the patients. Open fracture was seen in 62 percent of the patients while 38 percent of the patients had closed fracture. **Conclusion:** Femoral middle third shaft fracture are the most common shaft fractures of femur, mostly present in older adults.

Key words: Femoral, Shaft, Fracture

Corresponding author: Shashi Pal Sadana, Associate Professor, Department of Orthopaedics, Major S D Singh Medical College & Hospital, Farrukhabad, Uttar Pradesh, India

This article may be cited as: Sadana SP. Assessment of profile of patients with Femoral Shaft Fractures: An observational study. J Adv Med Dent Scie Res 2016;4(3):162-164.

INTRODUCTION

Diaphyseal femur fractures are mostly the result of high-energy trauma, for which reason they endanger life itself, account for important handicaps, and are usually associated with multilevel injuries. Their most frequent sequelae are limb shortening, poor alignment and stiffness in the knee. The incidence of diaphyseal femur fractures ranges from 9.9 to 12 for every 100,000 persons/year: 60% occur in men and 40% in women. The average age is 25, with a maximum incidence peak among 15 and 24 years of age.The cause in the majority of cases is high-energy trauma, mainly traffic accidents (80-90%). The fractures caused by minor trauma occur in patients above 60. The considerable energy required to cause many of these fractures often also provoke injuries in other structures, above all in the ipsilateral hip and knee and they often go undiagnosed.[1- 3]Although uncommon, fractures of the femoral shaft (thigh bone) in children may require prolonged treatment in hospital and sometimes surgery. This can cause significant discomfort and can disrupt the lives of the children and their familles. Surgical treatment comprises different methods of fixing the broken bones, such as internally-placed nails, or pins incorporated into an external frame (external fixation). Non-surgical or conservative treatment usually involves different types of plaster casts with or without traction (where a pulling force is applied to the leg).[4- 8]Hence; the present study was conducted for assessing the profile of patients with Femoral Shaft Fractures.

MATERIALS & METHODS

The present study was conducted for assessing the profile of patients with Femoral Shaft Fractures. A total of 50 patients with femoral shaft fracture were included in the present study. Written consent was obtained from all the patients after explaining in detail the entire research protocol. Complete demographic details of all the patients were obtained. A Performa was made and complete medical and clinical history of all the patients was recorded. Clinical and radiographic examination of all the patients was done and findings were recorded. All the results were recorded in Microsoft excel sheet and were subjected to statistical analysis.

RESULTS

Mean age of the patients was 53.8 years. 74 percent of the patients were males. 80 percent of the patients had fracture of femoral shaft fractures. Distal third fractures were seen in 10 percent of the patients. Transverse fracture was seen in 24 percent of the patients while short oblique fracture was seen in 36 percent of the patients. Spiral fracture was seen in 10 percent of the patients. Open fracture was seen in 62 percent of the patients while 38 percent of the patients had closed fracture.

Table 1: Demographic and clinical variables

Variables		Number	Percentage
Age group	Less than 40	12	24
	More than 40	38	76
Gender	Males	37	74
	Females	13	26
Location of fracture	Proximal fracture	5	10
	Middle third	40	80
	Distal third	5	10

Table 2: Description of fracture

Variables		Number	Percentage
Pattern of fracture	Transverse	12	24
	Short oblique	18	36
	Spiral	5	10
	Butterfly	7	14
	Comminuted	8	16
Type of fracture	Open	31	62
	Closed	19	38

DISCUSSION

Femoral shaft fractures amount to less than 2% of all fractures. Their optimal treatment is controversial, and there is still no consensus on this issue. Most authors agree that femoral fractures in children younger than 5 years require orthopedic treatment. Intramedullary nailing, conventional in adults, is accepted as treatment of choice in children older than 14 years. For femoral fractures in children aged between 5 and 14 years, surgical treatments have become popular in the last decade but there is still no standard treatment. Surgical treatments for this age range include, among others, plates, external fixators and flexible intramedullary nails, the latter having some advantages over the former two methods. Regarding the material used for flexible nails, the literature on the subject shows titanium is preferred to steel.[6- 9]Hence; the present study was conducted for assessing the profile of patients with Femoral Shaft Fractures.

Fakoor M et al evaluated lower limb discrepancy following different method of treatment and possible related factors especially type of fractures. All children aged <12 years of age with diagnosis of femoral shaft fracture were included in this study. Different methods of treatment were flexible intramedullary nailing, rigid intramedullary nailing with Steinmann pin and spica casting, spica casting and closed reduction, and ORIF with plate and screw. Distance from hip to knee for each patient was determined in scanograms. 253 cases (M=182, F=71) were included. One hundred forty-six (57.7%) cases had right involvement and 107 (42.3%) of cases had left side involvement. From all cases, 135(53.4%) cases had no changes in lower limb length. Eleven (4.3%) cases had lower limb shortening and 107(42.3%) cases had lower limb lengthening. Type A1 and type A2 showed greatest lower limb discrepency among cases who underwent ORIF with screw & plate fixation, and spica casting with closed reduction respectively.[10]

Sié E et al presentedtheir experience using open Küntscher nailing (K-nailing) which is still performed in developing countries for femoral fractures. Of 157 acute fractures treated between January 2003 and December 2009, 100 were stable (63.7%) and 135 were located within the middle third of the shaft (86%). Comminution was absent or minimal in 135 (86%) cases. Fracture union was achieved at an average of 14 weeks (range, 10 - 25). The duration of follow-up was 17 months (range, 6 - 36). Final evaluation showed that 129 (82.2%) patients had a good result according to modified Kempf's criteria. The predominant complications were infection (n=5; 3.2%), nonunion (n=9; 5.5%), implant failure (n=11; 7%), and malunion (n=27; 17.3%). Open reduction and fixation with a tight fitting Knail can give good results in selected acute femoral shaft fractures but knowledge of potential complications is needed.[11]

CONCLUSION

Femoral middle third shaft fracture are the most common shaft fractures of femur, mostly present in older adults.

REFERENCES

1. Salminen ST, Pihlajamaki HK, Avikainen VJ, Bostman ON. Population based epidemiologic and morphologic study of femoral shaft fractures. Clin Orthop Relat Res. 2000;372:241–9.
2. Toro A, Sanin JE, Uribe A. Osteosíntesis con clavos flexibles intramedulares retrógrados para el manejo de fracturas diafisarias del fémur en niños entre 6–12años. Rev Col Or Tra. 2004;18:75–84.
3. Bengner U, Ekbon T, Johnell O, Nilsson DE. Incidence of femur and tibial shaft fractures, epidemiology 1950-1983 in Malmo Sweden. Acta Orthop Scand. 1994;61:251–4.

4. Arneson TJ, Malton III LJ, Lewallen DG, O'Fallon WN. Epidemilogy of diaphyseal and distal femoral fractures in Rochester Minnesota, 1965-1984. Clin Orthop Relat Res. 1988;234:188–94.
5. Moroz LA, Launay F, Kocher MS, Newton PO, Frick SL, Sponseller PD, et al. Titanium elastic nailing of fractures of the femur in children. Predictors of complications and poor outcome. J Bone Joint Surg Br. 2006;88(10):1361–1366.
6. Narayanan UG, Hyman JE, Wainwright AM, Rang M, Alman BA. Complications of elastic stable intramedullary nail fixation of pediatric femoral fractures, and how to avoid them. J Pediatr Orthop. 2004;24(4):363–369.
7. Luhmann SJ, Schootman M, Schoenecker PL, Dobbs MD, Gordon JE. Complications of titanium elastic nails for pediatric femoral shaft fractures. J Pediatr Orthop. 2003;23(4):443–447.
8. Sink EL, Gralla J, Repine M. Complications of pediatric femur fractures treated with titanium elastic nails: a comparison of fracture types. J Pediatr Orthop. 2005;25(5):577–580.
9. Regel G, Lobenhoffer P, Grotz M, Pape HC, Lehmann U, Tscherne H. Treatment results of patients with multiple trauma: an analysis of 3406 cases treated between 1972 and 1991 at a german level I trauma center. J Trauma. 1995;38:70–8.
10. Fakoor M, Mousavi S, Javherizadeh H. Different types of femoral shaft fracture; different types of treatment: their effects on postoperative lower llimb discrepancy. Pol Przegl Chir. 2011 Sep;83(9):477-81.
11. Sié E, Kacou A, Traoré A, Séry B, Lambin Y. Primary unreamed and unlocked intramedullary nailing of femoral shaft fractures. Malays Orthop J. 2012 Nov;6(3):13-7.