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Study of occurrence of fracture femur shaft

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Abstract
This study is conducted to know the commonest causes for occurrence of fracture Shaft femur and its details. In 30 patients, male predominate (88%) in this study. RTA was the chief cause of fracture. Surgery were performed within 6.92 days average, There were 12 open of which 10 gustilo type 2 , 2 gustilo type3 and 18 closed type of fracture radiological union was possible in 16.16 weeks. Average patient was followed up for 11.48months. Average knee flexion of 100°. There were 8 knee pain, 4 shortening, 3 with protruding nail into knee joint, 1 delayed union, 2 superficial infection. Using Neer's scoring system there were 56% excellent, 16% good, 24% fair, 1% poor results.

Keywords: Distal third, Femur, Fracture

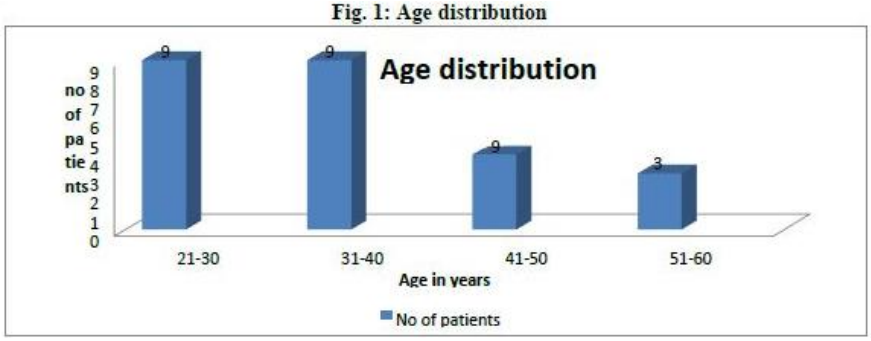
Introduction
Rapid industrialization and the fast pace of life have brought both comforts and catastrophe like road traffic accidents and crippling many young lives in the last few decades. Shaft femur fractures are often difficult to treat and they are notorious for many complications [1]. The purpose of this study is to understand the commonest causes of fracture shaft of femur.

Objectives
- Fracture Shaft of femur is one of the common fracture and seen commonly in day to day life.
- To study the fracture characteristics (AO type, open/closed).

Methodology
In this study 30 patients with fracture shaft of femur were studied. All the cases were treated in Ashwini Hospital Gulbarga June 2011 to July 2013.
All the fractures in this series were post-traumatic. No pathological fracture was included in the study. Fracture shaft of femur treated conservatively and fixed with other fixation systems like dynamic compression plate are not included.

Results
Age Distribution
Age of the patients ranged from 25 to 60 years with an average age of 37.4 years. Majority of the patients were in the age group of 21 to 40 years. Male patients were aged between 25 to 54 years with an average of 35.5 years. Female patients were aged between 40 to 60 years with average of 51.6 years.

Fig. 1: Age distribution



Sex Distribution: Of the total 25 patients treated with retrograde nailing, there were 27 male patients accounting for 88% of the patients and 3 female patients making up the remaining 12%.

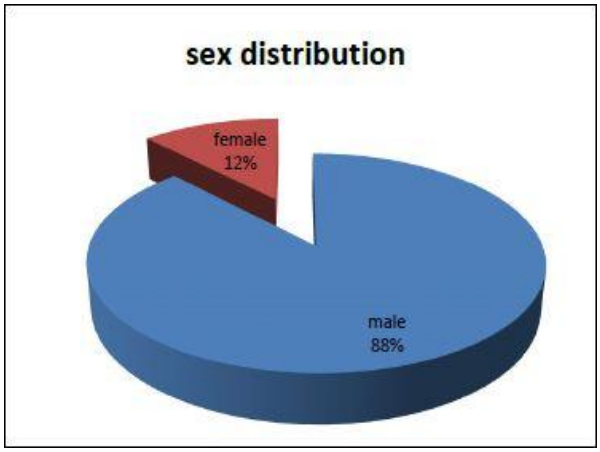


Fig 2: sex distributionsex distribution

Side Affected

Right side was affected more commonly than left in this study group. Right side was involved in 22 patients making up for 74% of the fractures and left was involved in 8 patients accounting for 26% of the fractures. None had bilateral fractures.

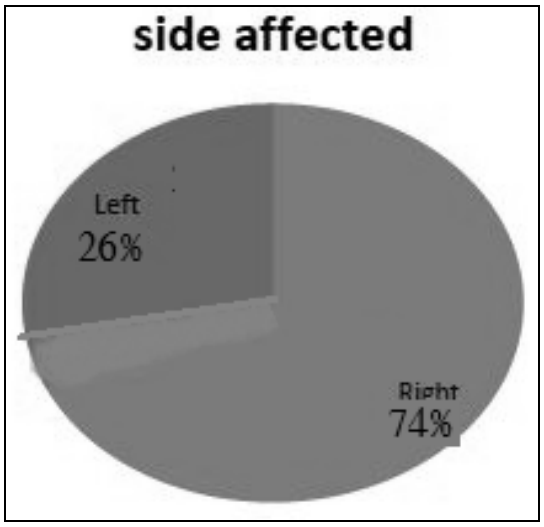


Fig 3: side affected

Mechanism of Injury

Seventy six (80%) percent fractures were sustained due to road traffic accidents and fall from height accounted for 24% of fractures.

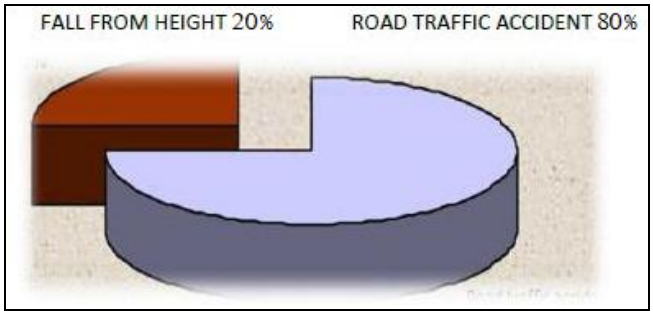


Fig 4: Mechanism of Injury

Relationship between Sex and Cause of Fracture

In males, maximum number of cases (80%) were due to vehicular accidents, where as in females fall from height was the important cause of fracture in this study.

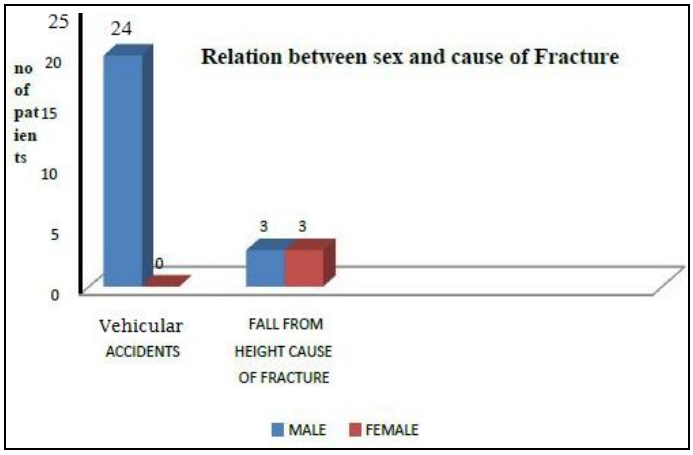


Fig 5: Relationship between Sex and Cause of Fracture

Type of Fracture

Out of 30 fractures, only 12 fractures accounting for 40% were open fractures. Rest were closed.

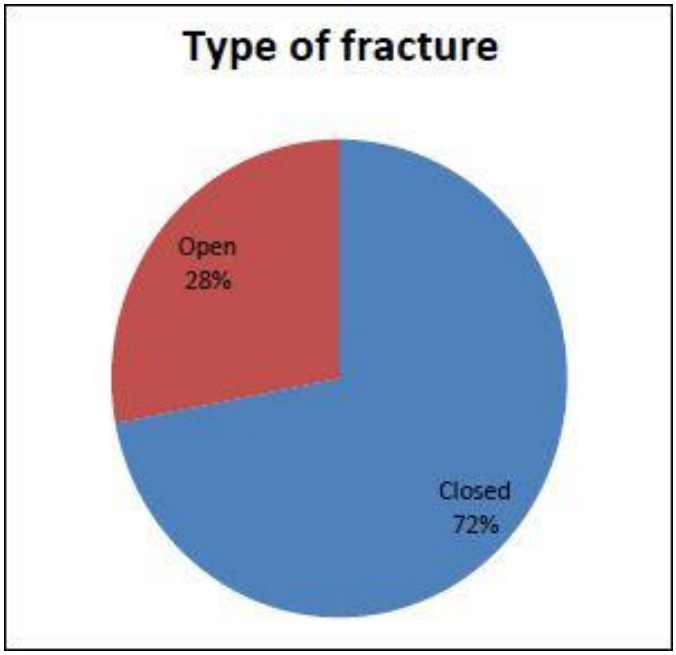


Fig 6: Type of fracture

Type of Open Fracture

Among the 12 open fractures, 10(83%) were type II and 2(17%) were type III. among type III one was type IIIA and one type IIIB. Of the 12 cases, 9 were due to accidents and were all male patients. 3 were due to fall, of which one was male and 2 were female. Table 7: type of open fracture

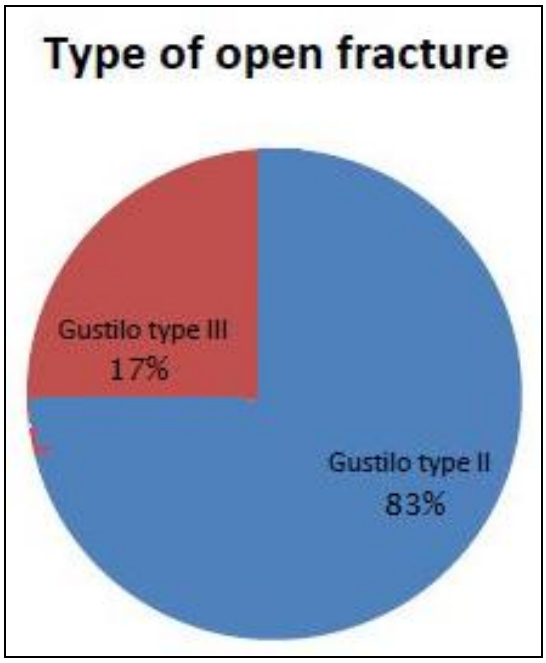


Fig 7: Type of open fracture

Type of Fracture Based On Ao Classification

Out of 30 fractures, type A1 fractures were 15 patients (50%), 13 patients (43%) were type A2 fracture and A3 in 2 patients (7%).

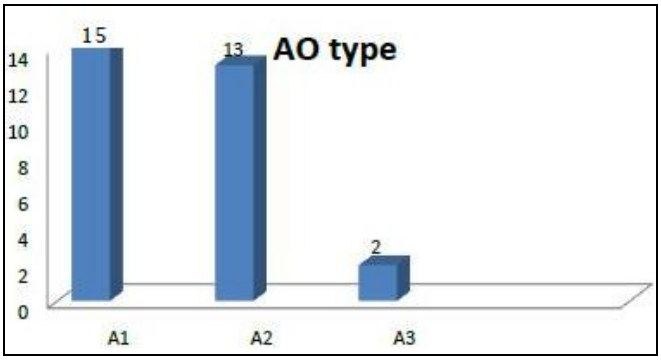


Fig 8: Type of fracture based on AO classification

Duration of Surgery

In 21 cases (70%) the duration was less than 90 minutes, in 6 cases (20%) the duration was 91-120 minutes and in 2 cases (10%) it was more than 120 minutes. Average operative time for all fractures was 83.92 minutes. It was observed that the operative time was more during intial learning curve and it came down with experience.

Discussion

Comparing our study with that of the previous reported series, the demographic profile is as follows:

The demographic profile of our series is closely comparable with Seifert J *et al*, [1] Wisniewski T [2] and Bel JC [3]. Mechanism of injury and fracture characteristics of our series were comparable with that of Seifert J *et al*, [1] Wisniewski T [2] and Bel JC3.Extra articular and intraarticular fracture percentages were closely resembling Wisniewski *et al*. [2]

Comparing our data with the previous series, we found similar results regarding union rates, outcome and complications

Conclusion

This study comprised of 30 patients treated with Interlocking nail. Majority of the patients were in the age group of 21-40 years. Males were affected most commonly. Predominantly right side was involved. Road traffic accidents were the common mode of injury. Few (28%) were open fractures. Among them 83% were Gustillo type type II and 17% were Gustillo type III.

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