Operative modalities used for various bone fractures and outcome: A descriptive study

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Abstract Background: Long bone fractures are very common in our society; the most common bone involved has been reported to be tibia fracture. Over the years the treatment of these fractures has evolved from the non-operative functional brace casting to various advanced operative modalities. Objective: The present study was done to describe the operative modalities used for various bone fractures and the outcome at orthopaedics inpatient department of a tertiary care hospital. Methods: The present clinical study was carried out at orthopaedics department of our tertiary care hospital. Study duration was from Jan 2012 to Dec 2012. Total of 1586 patients admitted in the orthopaedics ward during the study period were analyzed. Age and sex distribution of the patients, distribution of fracture pattern in study group, operative modalities used for various bone fractures and the outcome at orthopaedics inpatient department of a tertiary care hospital was described. Results: Most of the patients were between 20-50 years of age. The average age of study group was 39.14 years. There was a predominance of females with a proportion of 55.42 percent. Fracture femur was the commonest fracture contributing 726 cases followed by 466 cases contributed by fracture Tibia. Conservative management with POP cast was done in 357 cases and closed reduction was done in 212 cases. Internal fixation was done in 355 cases, K wiring in 342 cases and open reduction with internal fixation was done in 135 cases. Outcome was good with 62.4% cases being discharged with much improvement in condition and 37.5% showing complete recovery. There was no mortality in our study population during the study period.

Keywords: Open reduction with internal fixation, Fracture shaft of femur, K wiring.

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INTRODUCTION

Long bone fractures are very common in our society; the most common bone involved has been reported to tibia fracture¹⁻⁴. Fractures of the long bones are common in developing countries and are mostly due to the ever-increasing number of vehicular road traffic crashes, communal clashes, and civilian gunshot injuries⁵. Over the years the treatment of these fractures has evolved

from the non-operative functional brace casting to various advanced operative modalities. The present study was done to describe the operative modalities used for various bone fractures and the outcome at orthopaedics inpatient department of a tertiary care hospital.

METHODS

The present clinical study was carried out at orthopaedics department of our tertiary care hospital. Study duration was from Jan 2012 to Dec 2012. Total of 1590 patients admitted in the orthopaedics ward during the study period were analyzed. Age and sex distribution of the patients, distribution of fracture pattern in study group, operative modalities used for various bone fractures and the outcome at orthopaedics inpatient department of a tertiary care hospital was described.

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RESULTS

	Table 1: Age Distribution of Cases			
	Age (years)	Number of patients	Percentage	
	<20	17	1.07	
	20-30	429	27.05	
	30-40	505	31.84	
	40-50	288	18.16	
	50-60	184	11.6	
	60-70	118	7.44	
	70-80	36	2.27	
	80-90	9	0.57	
	Total	1586	100	
	Table 2: Sex Distribution of Cases			
	Sex	Number of patients	Percentage	
	Male	707	44.58	
	Female	879	55.42	
	Total	1586	100	
	Table 3: Distribution of Cases			
Sr	Sr No Fracture Description		Number of cases	
	1 Fracture Femur		726	
	2 Non displaced Fracture Tibia		466	
	3 Colles Fracture Non displaced		223	
	4 Fracture Humerus		121	
	5	Others	50	
	Total		1586	
Table 4: Distribution of Various Operative Modalities Used				
Sr	Onor	ativo Modality Usad	Number Of	
No	Opera	ative woodanty Used	Cases	
1	POP cast		357	
2	Internal Fixation		355	
3	K Wiring		342	
4	Closed Reduction Of Femur		212	
5	ORIF (Open	Reduction Of Fracture V	With 125	
5	Internal Fixation)		155	
6	Others		185	
		Total	1586	
	Table 5: Distribution of Outcome of Cases			
	Outcome	Number of patients	Percentage	
	Improved		62.5	
	Recovered	595	37.5	
	Total	1586	100	
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DISCUSSION

In our study, conservative management with POP cast was done in 357 cases and closed reduction was done in 212 cases. Thus, conservative management was the most common mode of management. Open reduction with internal fixation was done in 135 cases. Study by Vipin Sharma *et al*⁶ done in India had also concluded that conservative management is method of choice in management of closed fracture of long bone as it gives early union, better limb function and is devoid of any of the routine postoperative complications. Patients with failed conservative treatment, open fractures and fractures with complex geometry are better managed operatively.

Open reduction with internal fixation with plate and screws has proven to be better than nailing procedures in present series in terms of giving better functional outcome. Study by Ghadeer H. Majeed *et al*⁷ mentioned that closed treatment of humeral shaft fractures represents an effective method of fracture management and has sustained critical evaluation throughout the literature. Zagorski *et al*⁸ reported about a series of 170 patients treated conservatively with a non-union rate of 1.8 %. However, study by Rademakers M V et al reported that surgical treatment is advised for fracture tibia with greater than 5 mm displacement or greater than 5 degrees' instability with varus or valgus stress and their results had shown that surgical treatment (ORIF) leads to excellent functional and radiologic results.⁹. The present study has attempted to describe operative modalities used for various bone fractures and the outcome at orthopaedics inpatient department of a tertiary care hospital.

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