

Pattern of Adult Limbs Fractures at Shaikh Zayed Hospital, Lahore

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ABSTRACT

Road traffic accidents leading to musculoskeletal injuries are increasing in trauma centers and becoming public health emergency. Expertise of commonly presenting fractures pattern will help in planning and management of these injuries. This study done at Accident and Emergency Department, Shaikh Zayed Hospital, Lahore, was aimed at different fracture pattern of musculoskeletal injuries in 1 year period from February 2013 to January 2014 a total 1090 patients with Road Traffic Injuries were included in the study. 1840 adult patients who presented to the Accident and Emergency Department, Shaikh Zayed Hospital Lahore, 1090 (59.23%) of patients were due to Road Traffic Injuries. Amongst the Road Traffic Accidents (RTA) 853 (78.23%) of the patients had accidents of Motorbike QingQui Rikshaw and 897 (82.28%) of the patients were from 16-45 years age group. Highest frequency of fracture occurred in the Femur 368(33.76%), followed by Tibia/Fibula 260 (23.85%), Humerus 178 (16.33%) and Radius/Ulna 146 (13.39%). out of 1090 fractures, Complete fractures were 1005 (92.20%). Leading Fractures were Transverse 632 (57.98%) followed by Oblique 208 (19.08%) and then comminuted Fractures 175 (16.05%). Causes were Road Traffic Injuries followed by Fall and Machine injuries.

Key Words: Road Traffic Accidents, Upper Limb Fractures, Lower Limb Fractures

INTRODUCTION

Accidents along the road sides are amongst the major health problem. About thirty thousand people are seriously injured every day in which three thousand deaths are reported daily in the whole world.¹ Apart from this Road side accidents are the major cause of permanent disability amongst age 10-50 years.²

Road Traffic Accidents are the major cause of traumatic injuries.³ It has not received the attention it deserve despite the increasing trends in accidents. Lack of data in our setup increases the burden of problem.⁴ Data will help in identifying the risks factors as well as targeting that group so that prevention can be planned.

The objectives of this study is to show the magnitude of the problem, Motorbike, QingQui Rikshaw accidents which is a major culprit amongst traffic and to see the pattern of bone fracture in plain

radiographs of adult patients in our setup.

PATIENTS AND METHODS

This study was a cross-sectional institution based prospective study. This study included all the injured patients who presented to the Accidents and Emergency Department of Shaikh Zayed Hospital Lahore from February 2013 to January 2014. All the patients presented to the Accidents and Emergency Department enrolled in the emergency register by on duty Resident and discussed in detail the morning meeting. The discussion included the sociodemographic details along with the diagnosis, the causative agents and mechanism of injury. After reporting of radiographs by the radiologist, the radiologic data was collected by the research team. The clinical data and radiological findings were recorded and entered in the preset proforma. Data was analyzed in the tabulated form and results were

obtained.

RESULTS

A total of 1840 patients who presented to the Accidents and Emergency Department, Shaikh Zayed Hospital Lahore with a proven bone fractures on plain radiographs were studied. The study period was one year from February 2013 to January 2014.

Several causes leading to the etiology were identified. Road Traffic Accidents (RTA) contributed 1090 (59.23%) of injured patients, amongst them 853 (78.25%) of the patients were of Motorbike and QingQui Rikshaw accidents. Most of the injured patients were between ages 16-25 years. These were 424 (38.89%) patients (Table 1). Amongst the injured patents most were Male 849 (77.88%) whereas Female were 241 (22.11%). Male to female ratio is 3.52:1 (Fig. 1)

Table 1: Age with respect to fracture distribution in patients.

Age ranges (Years)	Frequency	Percent
16-25	424	38.89%
26-35	255	23.39%
36-45	218	20%
46-55	131	12.01%
56-65	35	3.21%
>66	27	2.47%
Total	1090	100%

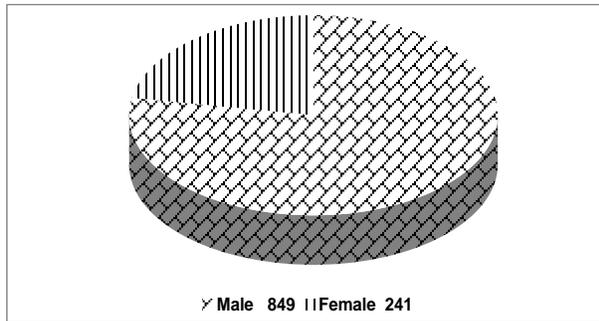


Fig. 1: Male to Female distribution

Regarding the occupation, workers accounted for 322 (29.54%) followed by students 215 (19.72%) and then merchants 175 (16.05%). House wives were 162 (14.86%), car drivers were 130

(11.92%) and the farmers were 86 (7.88%) of the cases.

Injuries to the upper limb contributed alone for 324 (29.74%) of cases whereas the proportion of lower limb was 747 (68.51%). Both upper limb and lower limb were involved in 19 (1.74%) of the cases.

The highest frequency of fracture occurred in the Femur 368 (33.76%) of the cases followed by Tibio-fibular fracture 260 (23.85%), Humerus in 178 (16.33%), Radius/Ulna in 146 (13.39%) and then Ankle 87 (7.98%), Patella 21 (1.92%) and Pelvis in 11 (1.009%). Both upper limb and lower limb were involved in 19 (1.74%) of the cases (Fig.2)

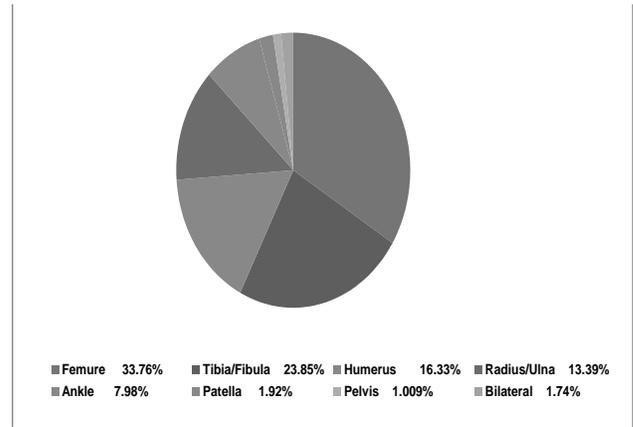


Fig. 2: Graphic presentation of fracture with respect to age

Table 2: Nature and type of fractures

Fracture type	Frequency	Percentage
Closed	926	84.95%
Open	164	15.04%
Total	1090	100%
Incomplete	85	7.79%
Complete	1005	92.20%
Total	1090	100%

Most of the fractures were closed 926 (84.95%) whereas 164 (15.04%) were open fracture. The pattern of fractures was complete in 1005 (92.20%) of the cases. Incomplete fractures accounted for 85 (7.79%) of the cases (Table 2). Transverse fractures stand out first 632 (57.98%) of the cases followed by oblique in 208 (19.08%),

comminuted in 175 (16.05%) and spiral in 54 (4.95%) of the cases. Impacted were 21 (1.94%) in number (Table 3).

Table 3: Specific fracture pattern of patients.

Pattern of fracture	No. of fractures	Percentage of fractures
Transverse	632	57.98%
Oblique	208	19.08%
Comminuted	175	16.05%
Spiral	54	4.95%
Impacted	21	1.94%

The sides were analyzed and right side in slight larger number *i.e.* 567 (52.01%) of the patients, left side was in 504 (46.23%) of the cases while in 19 (1.74%) of the cases both sides were involved.

DISCUSSION

This cross sectional study revealed that Road Traffic Accidents (RTA) account for majority of the injuries which was 1090 (59.23%). Data from the literature shows that study done by Andrew et al revealed that Road Traffic Accidents (RTA) accounted for 35% of all injuries presented to the hospital.⁵

Study done at Nigeria shows that Road Traffic Accidents (RTA) were responsible for 38.8% of all the fractures in trauma cases.⁶ Similar studies done at Tikur shows that Road Traffic Accidents (RTA) comprises of 40% of all injuries.^{7,8} Another study done at Tikur shows 47.9% of fracture cases.^{8,10} Tanzania road traffic accidents accounted for 56% of all patients admitted to Muhimbili Medical Centre due to injuries.⁹

All these studies were compared with our study. Results in our study showed a significant increase in percentage of fractured cases due to Road Traffic Accidents (RTA). This percentage 59.23% shows that increasing Road Traffic Injuries (RTI) presenting to our hospital, possibly being a tertiary care hospital or due to a genuine increase in occurrence of Road Traffic Injuries (RTI) or because of heavy traffic and ignorance of Traffic Laws.

Increase in number of Transverse fracture shows a direct trauma in many cases. Large number of Accidents cause increase turnover of patients, increase bed occupation and heavy budget consumption which is a major problem in developing countries.

Results of the study also direct us to raise public awareness of traffic rules and regulations especially amongst drivers and to collaborate with traffic police enforcing strictly about the Laws which are existing. Policy makers, Higher authorities and Government officials should also make even better Laws and traffic reforms for the safety of public on roads. There is an intense need to collect National Data and information on Road side injuries so that a comprehensive plan can be developed to intervene at different levels in order to avoid serious injuries.

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