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Profile of patients reporting with fractures in the orthopaedics department

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Abstract

Background: Fractures occur in individuals of all ages. The present study was conducted to record fracture reported in orthopaedics department.

Materials and Methods: 148 patients with fractures reported in orthopaedics department underwent physical examination along with radiological investigation such as X- ray skull, upper limb, lower limb, CTR scan etc. was performed in each case. Etiology of fracture and associated injuries was also reported. Management of the patient was performed accordingly.

Results: Out of 148 patients, males were 80 and females were 68. The most common cause of fracture among patients was road traffic accident seen in 102, fall in 40 and domestic violence in 6 cases. The difference was significant ($P < 0.05$). Fracture of upper limb was seen in 60, fracture of lower limb in 30, fracture of spine and trunk in 25, fracture of skull, intracranial injury in 33. Associated injuries was contusion in 12, open wound of upper limb in 24, open wound of lower limb in 54 and superficial injury in 28 patients. The difference was significant ($P < 0.05$).

Conclusion: Common type of fractures among patients visiting orthopaedics department was fracture of upper limb, fracture of lower limb, fracture of spine and trunk.

Keywords: Fracture, limb, road traffic accident

Introduction

Fractures occur in individuals of all ages^[1]. However, the type and body location vary widely depending on different factors, mainly related to individual bone quality and the nature of the trauma^[2]. From a societal view it is of interest to know the incidence of different fractures in a certain population. Such knowledge can form a base for the organization of relevant healthcare and for undertaking preventive measures to mitigate the risk of fractures^[3]. This may involve general community organization, including the planning of road traffic and living conditions for the elderly, but even more specific preventive measures for certain risk groups^[4].

Road traffic injuries (RTIs) are responsible for a substantial proportion of deaths and injuries and are responsible for more years of life lost than most human diseases. Human behavior factors, vehicle factors, and road factors contribute to the causation of road traffic crashes^[5]. Although the numbers of lives lost in road crashes in high-income countries indicate a downward trend in recent decades, for most of the world's population, the burden of road-traffic injury in terms of societal and economic costs is rising substantially^[6].

The fractures occurring in the elderly population, which are often fragility fractures, increased preventive measures are of interest. The World Health Organization (WHO) has described fragility fractures as fractures that result from mechanical forces that would not normally lead to a fracture. The incidence of fractures in many locations have been reported to increase^[7]. The present study was conducted to record fracture reported in orthopaedics department.

Materials and Methods

The present study was conducted on 148 patients with fractures reported in orthopaedics department. The ethical approval from institutional ethical committee was obtained. Written informed consent was also taken from all patients.

Data such as name, age, gender etc. was recorded. A thorough physical examination along with radiological investigation such as X- ray skull, upper limb, lower limb, CTR scan etc.

Was performed in each case. Etiology of fracture and associated injuries was also reported. Management of the patient was performed accordingly. Results thus obtained were assessed statistically. P value <0.05 was considered significant.

Results

Table 1: Distribution of patients

Total 148		
Gender	Male	Female
Number	80	68

Table I shows that out of 148 patients, males were 80 and females were 68.

Table 2: Etiology of fractures

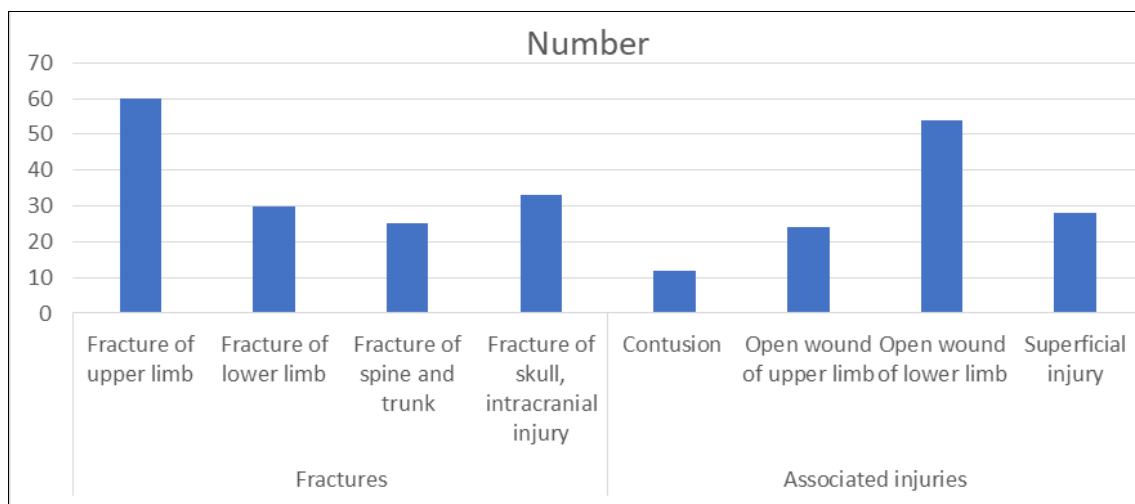
Etiology	Number	P value
RTA	102	0.01
Fall	40	
Domestic violence	6	

Table 2 shows that most common cause of fracture among patients was road traffic accident seen in 102, fall in 40 and domestic violence in 6 cases. The difference was significant (P< 0.05).

Table 3: Type of fractures and associated injuries

Parameters	Variables	Number	P value
Fractures	Fracture of upper limb	60	0.05
	Fracture of lower limb	30	
	Fracture of spine and trunk	25	
	Fracture of skull, intracranial injury	33	
Associated injuries	Contusion	12	0.04
	Open wound of upper limb	24	
	Open wound of lower limb	54	
	Superficial injury	28	

Table 3, graph I shows that fracture of upper limb was seen in 60, fracture of lower limb in 30, fracture of spine and trunk in 25, fracture of skull, intracranial injury in 33. Associated injuries was contusion in 12, open wound of upper limb in 24, open wound of lower limb in 54 and superficial injury in 28 patients. The difference was significant (P< 0.05).



Graph 1: Type of fractures and associated injuries

Discussion

The World Health Organization (WHO) has described fragility fractures as fractures that result from mechanical forces that would not normally lead to a fracture [8]. The incidence of fractures in many locations have been reported to increase, which mainly could be attributed to an increase in numbers of fragility fractures in a growing elderly population [9]. There are also reports of decreasing fracture incidences for certain fractures. Many factors may contribute to changes in the incidence rates—such as comorbidities of diabetes, obesity, and others; the use of certain medications; mental factor and social factors [10]. The present study was conducted to record fracture reported in orthopaedics department.

We found that out of 148 patients, males were 80 and females were 68. Pan *et al.* [11] found that the incidence of traffic-accidents-related hospitalization was between 9.17% and 11.54% and the average mortality rate of the inpatients admitted due to traffic accidents was 0.68%. Of all inpatients due to road traffic accidents in Taiwan, orthopedic fractures were the most common injuries that accounted for 29.36% of them. There were a total of 391,197 cases of three orthopedic fracture groups that were divided into fracture of upper limb, fracture of lower limb, and fracture of spine and trunk. An increase in national medical

cost used for inpatients with orthopedic fractures was noted and ranged from US\$ 45.6 million to US\$ 86 million annually. These orthopedic fracture patterns were frequently associated with other injuries especially head injuries (ranged from 14% to 26%). A significant relation to male gender, older age, low income, and admission to high-level hospital to the observed fracture patterns was observed.

We observed that most common cause of fracture among patients was road traffic accident seen in 102, fall in 40 and domestic violence in 6 cases. Aitken *et al.* [12] found that in one year, 7,449 patients were referred to the OTU. Three-quarters were referred with fractures. The overall false positive fracture referral rate was 25%. Several fracture subtypes were commonly over diagnosed in the ED. Regression analysis showed that patient age, patient gender, and the seniority of the referring clinician were independently predictive of an accurate fracture diagnosis.

We found that fracture of upper limb was seen in 60, fracture of lower limb in 30, fracture of spine and trunk in 25, fracture of skull, intracranial injury in 33. Associated injuries was contusion in 12, open wound of upper limb in 24, open wound of lower limb in 54 and superficial injury in 28 patients. Shu *et al.* [13] in their study 70 patients with osteoporotic fractures (OF) were

compared with 50 outpatients with multiple osteoarthritis (OA) followed through an outpatient clinic. The OF group was older ($p < 0.001$), less heavy ($p = 0.003$), had lower BMI ($p = 0.006$), was more likely to be white ($p = 0.011$), was less likely to be married ($p = 0.008$), and had previous falls, previous fractures, old fractures (> 1 year), falls in the last 12 months, fractures due to falls, and needed more assistance ($p < 0.05$). They also had lower Lawton & Brody Instrumental Activities of Daily Living scores ($p < 0.05$) and reported less lower limb disability, foot pathology, muscle weakness, hypothyroidism, and vitamin D intake than patients in the OA group. White race, previous falls, and previous fractures increase the risk of osteoporotic fractures by 10.5, 11.4, and 4.1 times, respectively. The chance of fracture dropped 29% for each one-unit increase in Lawton & Brody IADL score. Married participants had fewer fractures than participants with other marital status.

Conclusion

Authors found that most common type of fractures among patients visiting orthopaedics department was fracture of upper limb, fracture of lower limb, fracture of spine and trunk.

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