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Profile of patients with ankle fracture

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Abstract

Introduction: It is important to note and describe the fracture as well as the soft tissue envelope in which the injury is contained to be able to provide the appropriate treatment.

Methodology: All the patients were selected on the basis of patients having ankle fracture without distal neurovascular injury. Patients having foot injury in same limb and intra articular distal tibia fracture excluded from our study.

Results: In this study, the highest incidence of injury was found to occur in the third decade of life whereas in Burwell's series, the highest incidence was seen in the sixth decade of life. Mean age of the patient is 37.22 yr

Conclusion: There were more male patients than female patients.

Keywords: RTA, Ankle fracture, Age

Introduction

The ankle joint or the Talocrural joint is a modified or complex hinge joint (mainly uniaxial) consisting of three bones viz. the lower end of Tibia and Fibula and the Talus and the ligaments that bind them into a functional unit upon which muscles act to produce dorsiflexion and plantar flexion^[1].

The Lauge-Hansen and Danis-weber classification represent the two most commonly used classification systems for ankle fractures. The Lauge Hansen classification system is a mechanism of injury based scheme that uses radiographic fracture patterns to describe the mechanism of injury.

The Danis weber classification became the basis of the AO OTA Classification system; which is based on location of fracture lines and location of fibula fracture in relation to level of syndesmosis. Although both classification systems address the osseous and ligamentous injury patterns and lend information regarding the severity of the architectural derangement of the ankle. None of the classification systems address soft tissue issues such as open fracture, blistering or neurovascular compromise. It is important to note and describe the fracture as well as the soft tissue envelope in which the injury is contained to be able to provide the appropriate treatment^[2, 3].

Methodology

The present study consists of 50 cases of ankle fracture treated with open reduction and internal fixation. The study was conducted in the department of orthopedics, tertiary care hospital.

The maximum follow up was 24 months and minimum follow up was 4 months with an average follow up of 10 months. All the patients were treated as inpatient. A written informed consent was obtained before surgery.

All the patients were selected on the basis of patients having ankle fracture without distal neurovascular injury. Patients having foot injury in same limb and intra articular distal tibia fracture excluded from our study.

On admission detailed history was taken to know the nature of injury and detailed examination of patient was carried out including systemic examination to rule out associated injury. The vital parameters including temperature, pulse rate, blood pressure were recorded. The general condition of patient was stabilized. All patients were given intravenous fluids as per need,

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tetanus prophylaxis and broad spectrum antibiotics parentally given and analgesics were administered as per need. Points on examination for fracture ankle with type of fracture, soft tissue status and distal neurovascular status were noted.

Results

Table 1: Age Distribution

Age Group	Number of Case	Percentage	Burwell's series
< 10	-	-	4.20
11-20	-	-	5.43
21-30	17	34%	17.04
31-40	15	30.0%	13.33
41-50	14	28%	17.78
51-60	02	04%	5.00
>61	02	04%.	62.78

In this study, the highest incidence of injury was found to occur in the third decade of life whereas in Burwell's series, the highest incidence was seen in the sixth decade of life. Mean age

Table 4: Mode of Injury

Mode Of Injury	Number of Case	Percentage	Burwell's series
Vehicular Accident	24	48%	15
Direct fall of object	12	24%	14
Slipped	12	24%	46
Assault	02	04%	00
Fall from Height >1 feet	00	00%	10
Fall from Height <1 feet	00	00%	15

Though vehicular accident is the most common mode of injury in our series (48%) followed by slipping (24%) where as in burwell's series slipping is the most common mode of injury (46%). That is why it is apparent that the number of open fracture is higher in our series as compared to burwell's series.

Discussion

Although the method of fracture management have changed throughout medical history, the goal of physicians had remained constant since the time of Hippocrates. To restore the patient to his optimal anatomic and functional state [4].

It is true that very few patients present themselves later in the life at Orthopaedic clinics with crippling disability consequent upon ankle injuries, but it is the enormous degree of low grade morbidity which does derive from these injuries that justifies periodic reappraisal of the problem and hence the controversial subject is studied in detail.

The present study is prospective study of 50 cases of ankle fracture treated with Open reduction and internal fixation. Five patients did not return to follow up, hence final result were analyzed in forty five patients.

In this study, the highest incidence of ankle injuries were found to occur in the third decade of life and predominated by males. Thus young and active persons are more vulnerable to injury due to their more active life.

In the present series half of the patients had injury over right ankle which is comparable with the series reported by a study [5].

Vehicular accident is the most common mode of injury in our series (48%), in contrast to Burwell's series the slipping or stumbling was most common mode of injury in almost half of the patients (46%). This may be due to increasing use of mobile vehicles in developing countries like India with poor traffic and poor traffic education.

Due to subcutaneous location of ankle fracture severe bony and

of the patient is 37.22 yr.

Table 2: Sex Distribution

Sex	No.of cases	Percentage	Burwell's series
Male	45	90%	50.37
Female	05	10%	49.63

In our series, numbers of male patient are higher than female patients. whereas in Burwell's series, the incidence was found to be the same in either sex.

Table 3: side affected

Side affected	No.of cases	Percentage	Joy <i>et al.</i> series
Right	24	48%	50.00
Left	26	52%	50.00

As noted from the Table No 3, in both sexes patient sustained ankle injury equal on both side.

soft tissue injury is frequent and high incidence of open fracture in the present study it is 28% which is more than series reported by other study [6].

In our study Supination External rotational injury is common (38%) which is comparable to other study [5]. In our series we find that the patients who are operated as early as possible after injury fare better than who are operated later. This may be due to the following facts.

Conclusion

Vehicular accident was most common mode of injury leading to fracture.

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