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Clinical Profile of Patients with hand injuries

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ABSTRACT

Objective: To study the clinical profile of patients with hand injuries. **Material and Method:** This is a prospective study of 86 patients who presented to the OPD/ Emergency with a primary diagnosis of hand injury. **Result:** The mean age of patients presenting with hand injuries was 27.8 yrs, male female ratio was 10.1, industrial accidents followed by Road traffic accidents were the common causes of hand injuries. **Conclusion:** Strict implication of safety protocols in industries and minimizing road traffic accidents by following traffic guidelines can go long way in reducing the incidence of hand injuries. **Key words:** Hand injuries, industrial accidents, road traffic accidents.

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Introduction

Hand injuries are common and account for 5-10% of emergency department (ED) visits. (1) The hand is a very complex organ with multiple joints different type of ligaments, tendons and nerves. With constant use, it is no wonder that hand injuries are common in society. Hand injuries can result from excessive use, degenerative disorders or trauma. (2) Hand injuries range from simple cutinjuries to extensively crushed and degloving injuries. Form follows function in the hand therefore, any injury to the underlying structures of the hand carries the potential for serious handicap. (3) India is passing through a major sociodemographic, epidemiological, technological and media transition with rapid urbanization, motorization, industrialization and migration, traditional ways of living and working are being altered and incidence of hand injuries have increased by the time. Hand injuries can lead to a serious backdrop in the life of the victim. A simple lacerated wound could go into fibrosis thus resulting in making that part of hand cripple with loss of function and loss of income as well. (4) The HIMS, Dehradun where this study has been conducted gets a large number of patients with hand injuries due to the presence of many industries around this area as well as due to the high number of road traffic accidents.

MATERIALS AND METHODS

The study was conducted in the Department of Surgery, Himalayan Institute of Medical Sciences (HIMS), Swami Ram Nagar, Dehradun, from December 2011 to December 2012. Subjects were recruited from patients presenting in Emergency and Plastic OPD, HIMS, Dehradun with a primary diagnosis of Hand Injury. 86 patients were included in the study. A complete history

of patients and detailed examination of patients was done. Structured Study instruments (formats / subject proformas) were developed, and used to generate data. The data thus collected was subjected to descriptive statistical analysis.

RESULTS

Table 1 shows that overall mean age of the patients in our study was 27.81 years. Out of total 86 patients included youngest was of 3 years and oldest being of 70 years. The maximum incidence of hand injuries was found in 21-40 years of age 50 (58%) followed by 24 (28%) in < 20 years of age.

Table 1 : Age wise distribution of subjects (n=86)

Age group	No. of cases	Percentage
1 - 20 yrs	24	28%
21 - 40 yrs	50	58%
41 -60 yrs	9	10%
61 -80 yrs	3	4%
Total	86	100%

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Table 2 : Sex wise distribution of subjects (n=86)

Sex	No of cases	Percentage
Males	78	91%
Females	8	9%
Total	86	100%

Table 3: Occupation wise distribution of subjects (n=86)

Occupation	Number of Patients	Percentage
Labour	39	44%
Student	23	27%
Business	20	24%
House wife	4	5%
Total	86	100 %

Table 4 : Mode of injury among the subjects (n=86)

Mode of injury	No. of patient	Percentage
Industrial	40	46.5%
RTA	29	33.7%
Domestic	9	10.48%
Burns	4	4.66%
Farming	4	4.66%
Total	86	100%

DISCUSSION

The present study "Clinical profile of Hand injuries" was carried out at the Himalayan Institute of Medical Science, Swami Ram Nagar which is a tertiary medical care centre in the state of Uttarakhand. A total of 86 patients of hand injuries presented in the Emergency / Plastic Surgery OPD during a period of 12 months. In the present series, out of 86 patients, the mean age of patients presenting with hand injury was 27.81 years. In India 25-30% of injuries occur in patients of 16-20 years of age. 30-45% in 21-35 years of age and about 30% in 36-49 years of age which was similar to our study.(5) A similar mean age of incidence was also found in a study conducted by Ihekire et al in 2009 that showed a

mean age of incidence of 26.9 years ranging from 2-51 years.(6) Our study showed an age range of 3-70 years. A male female ratio of 10:1 was seen in our study. Boris KK fung et al included a total of 257 patients in their series with the male to female ratio of 9.3:1 which is comparable to our study.(7) A study by Gupta et al showed a male to female ratio of 6.2 :1. A Male : Female ratio of 2.2: 1 is reported in British isles (8) and 1.6: 1 in Denmark. The variation reflects cultural and employment differences.

A large number of the patients 39(44%) in our study were labourers followed by students 23(27%) and businessmen 20(24%). Housewives constituted only 4 (5%) of the patient load. In contrast Gupta et al showed the college going student (22.95%) to be the major chunk, being more prone to Road traffic accidents and followed by labourers drawn in industrial accidents (05). The study by Ihekire et al showed the major chunk of hand injuries occurring in Engineers and technicians (27%) followed by public servants (24.3%). (6) A large number of existing and emerging industries around our hospital resulted in our patients of hand injuries being of the labour class working in those industries. showed lowest complication rates.

40 (46.5%) patients in our study had injuries due to industrial accidents followed by 29(33.7%) occurring due to road traffic accidents. 9 (10.50%) patients sustained injuries during domestic works whereas 4 (4.65%) patients had injuries due to burns 4(4.65%) had injuries related to farming. In India, occupational injuries contribute to 2 % of total deaths and 1.8 % of total life years lost due to disabilities.(9) It is estimated that 19 fatal and 1,930 (1:100) nonfatal accidents occur annually per 1,00,000 workers.(10)

CONCLUSION

(1) Hand injuries are common and account for 5-10% of emergency department (ED) visits.

(2) Form follows function in the hand therefore any injury to the underlying structures of the hand carries a potential for serious handicap.

(3) Industrial accidents are a major reason for hand injuries thus safety protocol should be strictly followed in factories and industries to minimize the incidence of injuries.

(4) RTA also accounts for a large number of hand injuries thus minimizing road side accidents by following traffic guidelines can further reduce the hand injuries.

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