

*Short Communication***Who suffers severe hand injuries?**

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Abstract

Hand injuries can result in significant functional and socioeconomic impairment. A review was undertaken to determine who suffered severe hand injuries and the conditions under which these occurred. A retrospective review of all patients with hand injuries requiring hospital admission of more than 24 hours in a primary referral centre over a 6-month period was carried out. A total of 135 patients were included in the study. All were male, with 70.5% aged ≤ 30 years old; 78.5% were Malaysians and 21.5% foreigners. All (100%) severe hand injuries were associated with industrial accidents. The majority (62.2%) occurred in one particular district within the hospital's catchment area. Hand injuries could be due to the industrial activity or a particular type of industrial activity within the hospital's catchment area. A more comprehensive study involving a larger sample may provide more information.

Key words: hand injuries, primary referral centre, industrial activity

Introduction

Hand injuries can result in major disability (Bennett, 1983) and collectively, can be of enormous cost to the community (Brobback *et al.*, 1978). These injuries can, if neglected or inappropriately treated result in significant functional impairment and adversely affect an individual's livelihood and their family's well being (Roberts, 1996). If the prevalence of severe hand injuries can be reduced by preventive measures, those at risk, their dependants and the community may benefit. A study was undertaken to determine who suffered severe hand injuries and the conditions under which these occurred.

Patients and Methods

All consecutive inpatients who were admitted for more than 24 hours for the treatment of hand injuries over a 6-month period were included. Those who underwent outpatient treatment and those who were admitted for inpatient treatment for less than 24 hours were excluded. Patient details were obtained from admission, discharge, inpatient and operating room records. Their medical case records were retrieved for analysis of demographic data, common associated factors if any and the district within the hospital's catchment area where the hand injuries occurred.

The severity of the hand injuries were classified as Grade I: lacerations of soft tissue, Grade II: lacerations and/or crush injuries of soft

tissues and bone including up to 2 digits, Grade III: lacerations and/or crush injuries of soft tissues and bone involving more than 2 digits.

Results

Over the 6-month study period, 135 consecutive patients were admitted for more than 24 hours for the treatment of hand injuries. These admissions constituted 9.1% (135 of 1,476) of the total admissions fielded by the orthopaedic and trauma department. All (100%) the patients were male; the majority (70.2%) were aged ≤ 30 years (Fig.1). Malaysian citizens comprised 78.5% (106) and foreigners made up 21.5% (29) of the study population.

All (100%) the hand injuries were associated with industrial accidents. There was no hand injuries associated with agricultural or domestic accidents. The majority (62.2%) of the individual accidents which resulted in the hand injuries occurred in one particular district within the hospital's catchment area (Fig. 2). Most (85.9%) patients had grade II hand injuries, followed by grade I (10.3%) and grade III (3.7%).

Discussion

The study was undertaken to identify commonly associated factors predisposing to severe hand injuries. In order to exclude minor cuts and lacerations which in most instances did not require hospital admission, only patients with

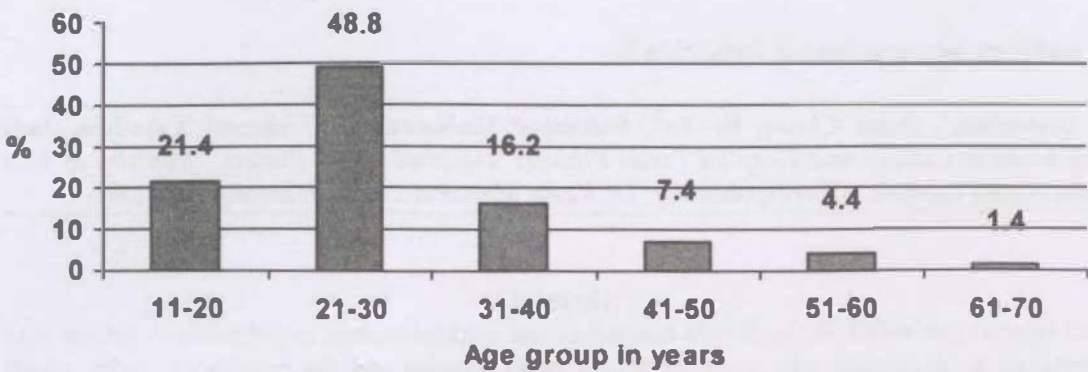


Fig. 1. Age distribution of patients with severe hand injuries

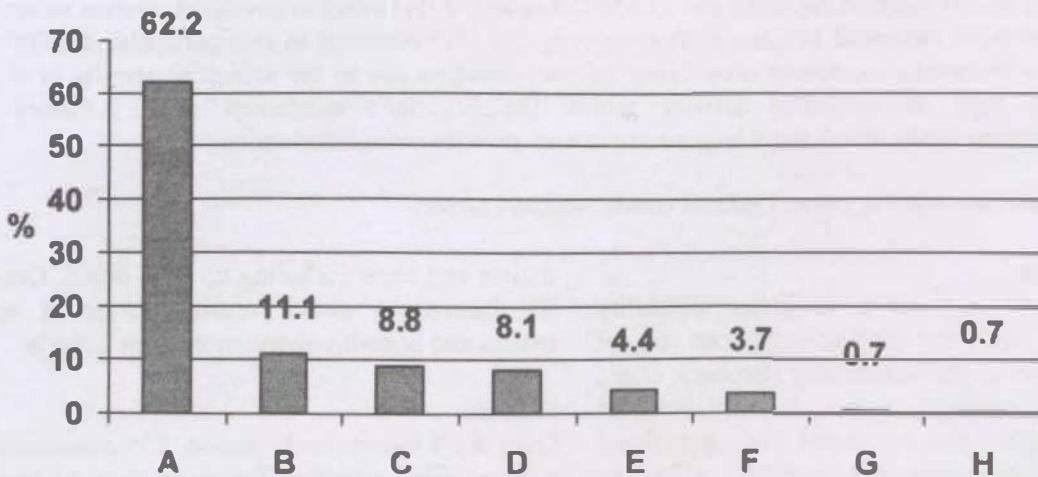


Fig. 2. Districts (A-H) where injuries occurred

injuries requiring an arbitrary period of 24 hours admission were included in the study.

Severe hand injuries formed a substantial proportion (9.1%) of the Orthopaedic and Trauma Service workload, a finding consistent with the 20% of all accident attendances reported by Clark *et al.* (1985). Most (70.2%) injuries occurred in males aged ≤ 30 years and this is again similar to the 40% of such patients presenting with hand injuries to the accident service reported by Clark *et al.* (1985).

All (100%) severe hand injuries in this study were work related and this is substantially higher than the 37% reported by Burrige *et al.* (1997), probably due to inclusion in the study of only those with more severe injuries requiring hospital admission of 24 hours or more. The high prevalence of these industrial accident associated hand injuries in one particular district could reflect either the high prevalence of industrial activity in the district and/or the high prevalence

of a particular type of industrial activity in the district predisposing to hand injuries. A more comprehensive study with a larger sample could perhaps provide further information on the situation.

Although information on the number of foreigners working within the catchment area of the hospital is unavailable, their relatively large proportion (21.5%) in the study population could reflect either their congregation in a particular industrial activity prone to hand injuries and/or their working conditions, inadequate formal training or lack of safety measures predisposing to the risk of accidental hand injury (al-Zahrani *et al.*, 1997; Grunert *et al.*, 1992). A substantial proportion of patients with hand injuries which required hospitalisation for more than 24 hours were young males, aged ≤ 30 years, who sustained hand injuries associated with industrial accidents. Limitations of the study included the relatively small sample size.

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