Evaluation of the Frequency and Type of Damages to the Ears, Nose and Throat in Patients Referring from Forensic Medical Centers to Ayatollah Rohani Hospital in Babol, Iran in 2012

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ABSTRACT

BACKGROUND AND OBJECTIVE: Currently, trauma is regarded as one of the most serious problems in societies, resulting in irreversible damages and injuries in individuals. Trauma as a result of assault, injury or accident is of grave significance, especially in developing countries. The purpose of the present study was to evaluate the frequency and type of injuries to the ears, nose, and throat in patients referring from forensic medical centers to Ayatollah Rohani Hospital in Babol, Iran.

METHODS: In this cross-sectional study, patients referring from Babol forensic medical centers were examined by an otolaryngologist in 2013. In this study, the cause and type of damages, as well as demographic characteristics, were collected and recorded in a checklist.

FINDINGS: In total, 238 cases were included in this study. The mean age of participants was 35.40±11.58 years. The majority of subjects were within the age range of 18-44 years. Ear damage was one of the common complaints in 146 subjects (61.34%). Overall, 94 cases (39.5%) had left ear injuries, 35 cases (14.7%) had right ear injuries and 17 cases had experienced damages to both ears. Dispute and assault were the major causes of hospital admission in 158 patients.

CONCLUSION: According to the results of this study, the highest incidence of trauma was reported in young individuals because of dispute and assault. Therefore, the dispute and assault are decreased in youths by preventing the effective agents.

KEY WORDS: Forensic Medicine, Trauma, Dispute, Assault, Ear, Nose and Throat.

Introduction

Currently, trauma is regarded as an important issue in medical circles, resulting in irreversible damages and injuries, heavy costs and attrition in human resources including professionals at medical and forensic medical centers. Overall, traumas are known as the leading cause of death in the first half of life and the fourth cause of death in general (1). The main causes of trauma can be categorized into...
two groups: intentional (e.g., self-mutilation, suicide, homicide and fights) and unintentional (e.g., motor vehicle accidents and occupational accidents) (2). In forensic medicine, assault includes damages to the human body, caused by direct or indirect collision with mechanical, physical, chemical and psychological factors. According to statistics reported by forensic centers of the country in November 2004, the total number of outpatient visits was estimated at 23,193 cases, among which 9,456 individuals suffered from injuries caused by assaults; these cases accounted for 41% of all visits (3). Attacks were mostly aimed at the head and face and less at the pelvic area (4, 5). In addition to assaults, accidents and road incidents are of great significance, especially in developing countries. Each year, more than 1.26 million people die due to car accidents, worldwide (6). In Iran, road accidents cause 18,000 cases of death and 300,000 cases of injury and disability, each year. Moreover, in USA, 160,000 people die due to various traumas, and 500,000 individuals develop permanent disabilities, each year (7, 8).

Considering the abovementioned issues, this study was performed to evaluate the frequency and type of damages to the ears, nose and throat in patients referring from forensic medical centers to public hospitals of Babol, Iran.

Methods
In this cross-sectional study, patients referring from forensic medical center of Babol were examined by an otolaryngologist in 2013. If necessary, paraclinical tests such as radiography, magnetic resonance imaging and audiological tests were performed to establish a definite diagnosis. The cause and type of damage, as well as demographic characteristics such as age, gender, occupational status, educational level, type of accident and hearing impairments, were recorded in a checklist. For data analysis, descriptive statistics and Chi-square test were performed, using SPSS version 20. p<0.05 was considered statistically significant.

Results
The total number of cases referring from forensic medical centers to an otolaryngologist was 238 in Babol, Iran in 2013. Overall, 192 (80.7%) and 46 (19.3%) cases were male and female, respectively. Also, 185 cases (77.7%) were married and 53 cases (22.3%) were single. The mean age of participants was 34.9±11.58 years. Subjects’ age ranged between 6 and 67 years. The mean age of male participants was 35.5±13.8 years, and the mean age of female subjects was 34.97±9.28 years. According to the results, dispute and assault were the most common causes of accident (fig 1). Most patients were within the age range of 18-44 years (table 1).

Figure 1. The frequency and type of damages to the ears, nose and throat in patients referring from forensic medical centers to Ayatollah Rohani Hospital in Babol, Iran.

Table 1. The frequency of age of patients referring to ear, nose, and throat clinics of Babol public hospitals in 2013

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>N(%)</th>
</tr>
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<tbody>
<tr>
<td>&lt;18 years</td>
<td>13(5.5)</td>
</tr>
<tr>
<td>18-44 years</td>
<td>176(73.9)</td>
</tr>
<tr>
<td>45-59 years</td>
<td>44(18.5)</td>
</tr>
<tr>
<td>≥60 years</td>
<td>5(2.1)</td>
</tr>
</tbody>
</table>

Moreover, 182 subjects (76.5%) had high school diplomas or lower (table 2). Ear injuries were among common complaints in 146 subjects (61.34%). Overall, 94 cases (39.5%) had left ear injuries, 35 cases (14.7%) had right ear injuries and 17 cases had experienced damages to both ears. Among patients with head and facial traumas, referring to ear, nose and throat clinics of Babol public hospitals, 57 cases (9.23%) suffered from ear injuries (table 3).
petrous ecchymosis

Ear damage, edema and periorbital ecchymosis

Edema and periorbital ecchymosis

Broken nose, edema and periorbital ecchymosis

Hematoma behind the eardrum

Acoustic trauma

Complete hearing loss

Discussion

In this study, the majority of participants referring from forensic medical centers were within the age range of 18-44 years. The majority of participants were male. Cases with high school diploma or lower constituted the majority of patients, whereas illiterate patients were the minority. The majority of patients were self-employed, students, employees and housewives, respectively.

Dispute and assault were the most common causes of accidents in most patients, followed by vehicle accidents. Ear damage was the most common ear, nose and throat injury in patients referring from forensic medical centers. Also, the majority of individuals were referred from forensic centers due to dispute and assault. These findings were in accordance with the results reported by Afzali et al. in Hamadan, Iran (1). In a study by Kiani et al., most participants were self-employed
(3); this finding was in consistence with our study. This can be due to the high prevalence of self-employment in our society. According to studies by Polson et al. and Abolhasani et al., trauma was more prevalent among men than women, which was consistent with our study findings (9, 10). This can be related to the higher participation of men in society, compared to women. In a study by Ranngraz et al., in terms of educational level, the majority of assaults were reported in individuals with basic knowledge (i.e., literate subjects) (11), while in our study, the majority of cases had high school diplomas or lower and illiterate people constituted the minority; this may be due to the increasing level of education and decreased illiteracy.

In a study by Sanaeezadeh et al., the highest rate of mortality caused by car accidents was reported in patients, aged 21-30 years (12). Moreover, in a study by Selye-Fubara et al. in Nigeria, the highest mortality rate due to car accidents was reported in the age range of 16-20 years (13). Additionally, in a study in Thailand, 70% of deaths due to car accidents were seen in patients aged 10-39 years (14). Studies have shown that different types of trauma in both alive and dead cases occur in the age range of 20-30 years (15). In the present study, the majority of patients were 18 to 44 years of age. This can be justified by the young age, high sensitivity, energy and pride of the youths. In a previous study, broken nose was the most common type of broken bone in the face (16). However, in our study, the most common type of damage to the ears, nose, and throat in patients referring from forensic medical centers was ear damage, followed by nose injuries. In 1981, in a study by Austen et al., rate of malingering was reported to be 10-50% in those seeking compensation due to hearing damages (17). Moreover, in our study, the majority of ear damages due to assaults were related to the left ear. This can be justified by the fact that most people are right-handed in our country. According to the results of this study, the highest incidence of trauma was reported in young individuals because of dispute and assault. Therefore, the dispute and assault are decreased in youths by preventing the effective agents. On the other hand, we can reduce the number of accidents by promoting traffic safety culture and public education since childhood.

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References


