FACIAL TRAUMA AS SEQUEL OF PHYSICAL ATTACKS: LITERATURE REVIEW

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ABSTRACT
Introduction: Coinciding with the reduction of cases of facial trauma due to car crashes in the last few years, there was an increase in cases of lesions in the head and neck by physical attacks, mainly due to increased urban violence. Objective: The objective of this study was to develop a literature review about the facial trauma caused by beatings and its main aspects. Material and Method: MEDLINE / PubMed and SciELO / Lilacs databases were used, with the following descriptors: facial trauma, and agression injuries and facial trauma and physical aggression, respectively. The findings included articles in English and Portuguese, ranging from the years 2002 and 2012. Results: From a total of 133 articles, 17 met the established criteria and from them, the most relevant data were collected and studied. Discussion: occurred an increase from 9 to 14.8% of cases of facial trauma by physical attacks. Most of the occurrences was involving males (87%) and its incidence was higher in the age group of 20 to 39 years. In most cases the most affected bones were jaw (35%), zygomatic (24%) and nose (23%). Considerations: Governmental actions are necessary to decrease urban violence, and thus promote a reduction of the numbers of victims of physical agression.

Key words: Face. Complications. Injuries.

INTRODUCTION

Urban violence is associated with socioeconomic conflicts, from emotional / personal aspects, involving most individuals, between the second and fourth decades of life[1]. Due to the projection of the face, its great exposure and little protection, it usually is the most affected region in these assaults, comprising about 8% of visits to hospital emergency services[2].

The causes of facial trauma are numerous and the predominancy of an etiologic factor depends on the population studied, age, gender, social status, place of residence, among others[3]. Because of government actions towards reducing accidents, such as the mandatory use of seat belts and prohibition of alcoholic beverages before driving, over the past three decades, there was a reduction of facial injuries resulting from automotive accidents[4]. In contrast, increased the number of traumas in the head and neck caused by physical injuries.

A localized lesion in the face involves not only soft tissue and bone, but also, by extension, can affect teeth, sinuses, eyes, and brain, often causing more serious injuries5. Thus it becomes necessary early diagnosis and rapid treatment of these patients, often multidisciplinary, aiming to minimize the sequels, as well as morbidity and mortality[2].

This study aimed to develop a literature review about the facial trauma caused by physical aggression and its key aspects such as: bones and structures most affected, the type of treatment, the age and gender of the victims treated at hospital emergency services.

MATERIAL AND METHOD

Revisions of literature were conducted using MEDLINE / PubMed as research tool, using the following keywords: facial trauma, injuries and agression. Due to the abundant number of articles found, using a combination of the descriptors together as follows: facial trauma and facial injuries agression agression was performed, and the results, are 60 articles related to the topic. From that number, were separated those articles written in English, Portuguese and between the years 2002 and 2012, and a total of 9 appropriated articles was selected. Scielo / Lilacs database was also used, with the following descriptors: facial trauma and physical aggression, therefore, 73 articles were preselected. For this tool, the same criteria for inclusion and exclusion of previous research was applied, resulting in a final number of 7 valid items.

RESULTS

From 133 articles found based on the research described above, were applied the inclusion and exclusion characters. Were included papers in English ans Portuguese, that related facial trauma and physical and / or urban violence, between 2002-2012, and were exclude papers that related firearms and facial injuries, that related other causes than the interpersonal aggression and papers that related death of the victims, and the final amount of selected articles that met the established criteria was 17, and from them, the most relevant data were collected and studied, and used to support the writing of this review.

DISCUSSION

According to Kostakis et al, it was in the past 10 years an increase of 9% to 14.8% in cases of facial trauma by physical assaults with the majority of the involved individuals living in urban centers. This increased incidence was also observed by Rodrigues[7].

Still on the geographic location of facial trauma, Batista et al 8 in 2012, evaluated the clinical records of 1121 patients treated at the Public Hospital of Guanhães, between January 2005 and November 2007. Of these patients, 790 (70.5%) underwent maxillofacial trauma. Most of these were male (n = 537, 68%) and residents of urban areas (n = 534, 67.6%). The man-woman relationship was 2.12:1 (urban, 1.72:1; countryside, 3.49:1).

The mean age was 25.7 years (SD = 14.1). For rural and urban patients, 19% were victims of interpersonal violence. The most common fractures in these patients were mandibular fractures (18%) nasal fractures (14.3%) and zygomatic fractures (12.9%). Among dental traumas, dental avulsion was the most common one (8.5%).

Cavalcanti9 in 2009, analyzing 11,624 reports of examinations of victims of physical assault, from January 2003 to December 2006 reported that 69.1% had lesions in the head and face. The oral cavity in turn, was injured in 23.8% of cases. There is a similar distribution between the upper and lower jaws.

Martins et al [10] in their study of 2011 studied the relation between traumas of physical aggression in the region face and the age and gender of the involved people. The patients' ages ranged from 3 to 72 years (average age 27. 3 years). Seventy-nine patients were men (87%) and 12 were women (13%), corresponding to a man-woman relation of 6,6:1. The highest incidence of fractures was in the jaw among males and occurred with the ones between the age of 21 and 30 years. For women, mandibular fractures occurred most often between the ages of 11 and 20 years.

According to Wulcan et al[11] in analysis of 164 patients, interpersonal violence was the most common etiology in both sexes (male = 46.1%, female = 58.3%). All ages are affected, but the peak incidence occurs in men of 20 to 39 years (mean age of 28.3 years) and women of 20 to 29 years (mean age of 22.4 years). Most resulted in soft tissue injury (23.8%) and Le Fort fractures (type I, II and / or III), or other panfacial complex fractures (20.7%). For the isolated bone structures, the jaw had the highest incidence of fractures (19.8%), followed by nasal fracture (10.1%) and dental avulsion (9.8%). Becoming apparent in this series that interpersonal violence is the mechanism of injury that results in the largest number of fractures and contusions affecting the maxillofacial complex.

Montovani et al 12 observed that from 513 patients with facial fractures, 129 (25.1%) suffered physical assaults, and of these, 77 were women (15.1%) and 436 men (84.9%). The most affected age group was 20-29 years, and approximately two thirds (69.8%) of the fractures occurred between the ages of 11 to 39 years. The most frequent fracture was in the lower jaw (35%), followed by zygomatic fracture (24%) and nasal (23%). Sargent & Fernandez13 in their analysis of 200 patients in 2012, concluded that most injuries involve the zygomatic complex region (22%).

Thóren [14] study in 2012, with 339 patients, mean age 15 years, involved in school fights, showed that damage to facial soft tissue was observed in 39.3% to 55.5% of the cases. Of these patients, 66.7% suffered fractures of middle and lower third face in association with skull fractures, and upper and lower limbs. As noted by Horibe et al 15 in 2004 with 98 patients , 30 victims of physical aggression in the form of punch / kick / gun beating butt, 10% were affected by extra-mandibular injuries. Besides isolated fractures (106 cases - 63.8%), lesions were found associated with other facial bones (25 cases - 15%), and traumatic brain injury (TBI) in 12 cases (7.3 %), limb lesions in 17 cases (10.2%) and deep skin lesions on the face (seven cases - 4.2%). The aggression was the main etiological factor of fractures in the mandibular body, responsible for 41.3% of the fractures in this location. Male is still the most affected gender, and the most involved age group is the younger population. The main cause of mandibular fractures is no longer represented by traffic accidents, but the aggressions. The most affected is the mandible body and therefore the most common treatment is the stable internal fixation with miniplate and screw whose benefit exceeds complications.

Of the 711 patients examined by Macedo et al[16] in 2008, there was a predominance of physical aggression in both gender, accounting for 38.8% of the victims of facial trauma. In the age groups

between 11 and 50 years, physical aggression was the main cause of facial trauma. Regarding the characteristics of the lesions, and knowing that it is a trauma with multiple injuries, contusions / abrasions prevailed as the type of injury more scanned.

CONSIDERATIONS

According to what was discussed in this literature review, the increasing number of cases where the facial traumas were caused by physical injuries, was very significant, particularly over the last 10 years. This statistical growth is due to the advent of alcohol prohibition, the mandatory use of seat belts, and also by the increasing violence in major urban centers.

The face is the most affected area in cases of interpersonal violence, mainly by social and aesthetic impact that these injuries cause. The bones more prominent as the jaw, nasal bone and zygoma, are the hardest hit, suffering by direct trauma. The number of cases where the victims are women has increased significantly, as well as the age group most involved, between 20 and 40 years, reaching individuals during their productive age. Thus, government action is needed to raise awareness of the population, in order to reduce urban violence, and thus promoting a decrease in spending of public health with treatments for victims of physical assault.

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