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PREVALENCY OF OROFASIAL INJURIES AT DEPARTMENT OF EMERGENCY IN REGIONAL REFERRAL HOSPITAL MUNICIPALITY OF SUAI - COVALIMA TIMOR LESTE (OVERVIEW JANUARI-DECEMBER 2019).

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ABSTRACT

Introduction: *Today there are many cases of injuries, commonly traffic accidents involving the head and neck region. The area of the face is the most affected lesions, including facial and oral. The injury related to the soft and hard tissues of the face and mouth, by anatomical landmark of the hard tissue, starts from the frontal bone, skull base, orbital bone, nasal septum, frontal zygomatic bone, maxillary zygomatic bone, ethmoid bone, temporomandibular joint, maxillary and mandibular bone.*

Objective: *Was to describe the most frequent orofasial injuries by age, sex and months of the year where have been attended in Regional Referral Hospital Municipality of Suai - Covalima Timor Leste in the period January-December 2019.*

Methods: *A descriptive cross-sectional study was carried out with total samples of 10 patients by purposive sampling. Data collection used registered log book or report book by medical record systems in emergency department.*

Results: *The most affected age group being 21-25 and 31-35 years, male sex is majority got injuries and month July has the most frequent cases of orofasial injuries.*

Conclusion: *Injuries of orofasial are a few cases that are often found in the emergency department due to traffic accident., it required immediate treatment so not to cause disability or even worst death.*

Keywords: Orofacial Injury, Traffic Accident, Emergency Service, Regional Referral Hospital of Covalima.

INTRODUCTION

Traffic accidents are a global problem, each year around the world around 1.3 million people lose their lives and between 20 and 50 million people are injured. These injuries and deaths have a great influence on the families of victims, the places, the communities and the states to which they belong. According to the WHO report (2013), low- and middle-income countries have higher rates of traffic accidents, accounting for 90% of all deaths globally, despite only having about 32% of motor vehicles. Worldwide[1]. A report Meirmanov (2014) cited by Carlos Tilman & João Bosco, 2022, estimates that by the year 2020, annual deaths from traffic accidents will increase by 80% in developing countries[2]. Traffic accidents have a high incidence throughout the world, including Timor Leste, especially in Suai - Covalima. The injuries involve all parts of the human body from head to toe and are classified as polytraumatic injuries[3]. They usually affect only soft tissues or severely affect hard tissues such as bone. People's lack of awareness of how to ride safely will seriously harm their lives. Somehow, there were many injuries to the human

body, and it manifested as polytraumatics.

Currently, in this article we will discuss the focus on the area of the head and neck that relate to orofacial injuries. Injury related to the hard and soft tissues of the face and mouth, by anatomical landmark of the hard tissues begins from the frontal bone, the base of the skull, the orbital bone, the nasal septum, the zygomatic-frontal bone, the zygomatic-maxillary bone, the ethmoid bone, the fronto-maxillary, frontonasal temporomandibular joint, maxillary and mandibular bone[4,5]. Soft tissue injury is related to loss of the skin layer and is known as avulsion and skin loss. In addition to the pathophysiology, there is abrasion or excoriation, vulnus scissum, laceration, punctum or penetrating wound, and vulnus morsum. Involvement of hard tissues (orofasial bone fractures include fracture lines, vertical and horizontal fractures). The type of trauma or facial extension They are: intraoral lesion (oral, tongue, dentoalveolar and teeth) and extraoral lesion (chin, cheek, eyes, nose, face, etc.). Orofacial hard tissue injury is consciously known as Le Fort fractures. A Le Fort skull fracture is a classic transfacial fracture of the midface, involving the maxillary bone and surrounding structures in a horizontal, pyramidal, or transverse direction. The hallmark of Lefort fractures is traumatic pterygomaxillary separation, which means fractures between the pterygoid plates, horseshoe-shaped bony protrusions that extend from the lower margin of the maxilla and the maxillary sinuses[6,7]. The continuity of this structure it is key to the stability of the midface, whose involvement affects the surgical management of trauma victims, since it requires fixation to a horizontal bar of the frontal bone. The pterygoid plates lie behind the upper dental row, or alveolar crest, when looking at the face from an anterior view. The fractures are named after French Surgeon René Le Fort (1869-1951), who discovered fracture patterns by examining crush injuries on cadavers. There are types of Le Fort :

- Le Fort I - Slight swelling of the upper lip, ecchymosis is present in the buccal groove below each zygomatic arch, malocclusion, mobility of the teeth. The impacted type of fractures can be almost immobile and it is only by grasping the upper teeth and applying some firm pressure that a characteristic grid can be felt which is diagnostic of the fracture. Percussion of the upper teeth produces a cracking pot sound. Guérin's sign is present characterized by ecchymosis in the region of the greater palatine vessels.
- Le Fort II: stepped deformity at the infraorbital margin, mobile midface, anesthesia or paresthesia of the cheek.
- Le Fort III - Tenderness and separation at the frontozygomatic suture, elongation of the face, depression of the eye levels (enophthalmos), hooding of the eyes, and tilting of the occlusal plane, an imaginary curved plane between the edges of the incisors and the tips of the the posterior teeth. As a result, there is nausea on the side of the lesion[3,5,9].

Orofacial trauma is a common presentation in the Hospital Emergency Department, either as an isolated injury or as part of multiple injuries to the head, neck, chest, and abdomen cited by Carlos Tilman & João Bosco, 2022[8]. In addition, Regional Referal Hospital Suai-Covalima at Emergency Department, received a traumatic patient due to

various injuries, the most common case is trauma to the orofacial region, recorded as a high incidence of traffic accident. Unfortunately, several patients showed lack of cooperation with doctors and nurses for being treated while suffering an accident related to orofacial trauma, most of them came drunk and consumed alcoholic beverages that ended up in the emergency room due to the accident they suffered. In addition, it occurs in pediatric and adult patients, various types of soft tissue and hard tissue injuries, in fact it is an uncomplicated fracture, laceration and possible to treat in this hospital, but if the complex injury has been transferred to National Hospital Guido Valadares Dili.

Objective : To describe the most frequent injuries, age, sex and frequent months with the age group that was affected was 5-50 years and risk factor for traffic accidents during January until December 2019 in Regional Referral Hospital Municipality of Suai- Covalima Timor-Leste.

METHODS

A descriptive cross-sectional study, all the cases of orofasial injuries have been carried out in the Emergency Department of Regional Referral Hospital that was registered as a traffic accident. Although these cases are polytraumatic and the clinical manifestation that shows the trauma is also included in the orofasial region, it is categorized as cases in this investigation. The variables are all patients who were registered as trauma in orofasial, child or adult, male or female, registered during January to December 2019. The The variables of this research are secondary data and documentation by photography to confirm the validity of the data cited by Carlos Tilman & João Bosco, 2022. In addition, the patients in this research have documentation to compare with the emergency registration book during the year 2019, in fact the variables are patient age, sex, months of most frequent accident, type of frequent orofasial trauma with total number of cases is 10 patients with orofacial trauma.

RESULT AND DISCUSSION

The variables are age of the patient, sex, months of most frequent accident, type of frequent orofasial trauma with a total of cases is 10 patients with orofasial trauma. Table 3.1-Description of orofasial injuries based on age and sex.

Age	**Quantity or Numbers of cases n (%)**	**Sex**	
		Male	**Female**
5-10 year	1 (10%)	1 (10%)	-
11-15 year	-	-	-
16-20 year	1 (10%)	-	1 (10%)
21-25 year	2 (20%)	2 (20%)	-
26-30 year	1 (10%)	1 (10%)	-
31-35 year	2 (20%)	1 (10%)	1 (10%)
36-40 year	1 (10%)	1 (10%)	-
41-45 year	1 (10%)	1 (10%)	-
46-50 year	1 (10%)	1 (10%)	-
Total (100%)	**n = 10**	**8 (80%)**	**2 (20%)**

In table 3.1, there are 2 variable age categories with 2 (20%) cases, their age 21-25 and 31-35 years between 6 age variables within 1 case is 5-10,16-20,26-30,36 -40, 41-45 and 46-50 years. In addition, there is no case of orofacial trauma at the age of 11-

15 years. Meanwhile, in the case of incidence in the age of 21-25 years there are 2 male patients and in the age 31-35 years there are 1 male and female patients who were registered in emergency room in January to December. In comparison another study, the Traffic accidents are the leading cause of all deaths worldwide, with 1.24 million predetermined deaths each year. Approximately 85% of deaths occur in developing countries. Men, especially those between 15 and 44 years old, are the group of people most affected by traffic accidents[10]. In addition, another study in relation to this study result showed that the majority of male patients in this study were young adults (age group 21-25 years), who are often injured due to their involvement in a traffic accident. In addition, in most cases the patient was between 18 and 34 years old with a ratio of men to women of 2.9:1 and the most common cause of maxillofacial injuries was a traffic accident involving 570 cases with 72.7% (438) men and women. 27.3% (132) women cited by Carlos Tilman & João Bosco, 2022[11].

Table 3.2 Distribution of orofasial injuries based on frequent month.

Months	**Quantity or Numbers of cases n (%)**	**Sex n (%)**	
		M	**F**
January	0 (0%)	0 (0%)	0 (0%)
February	0 (0%)	0 (0%)	0 (0%)
March	2 (20%)	2 (20%)	0 (0%)
April	1 (10%)	1 (10%)	0 (0%)
May	0 (0%)	0 (0%)	0 (0%)
June	0 (0%)	0 (0%)	0(0%)
July	4 (40%)	2 (20%)	2 (20%)
August	1 (10%)	1 (10%)	0 (0%)
September	1 (10%)	1 (10%)	0 (0%)
October	1 (10%)	1 (10%)	0 (0%)
November	0 (0%)	0 (0%)	0 (0%)
December	0 (0%)	0 (0%)	0 (0%)
Total	**n = 10 (100%)**	**8 (80%)**	**2 (20%)**

In table 2, there are 2 categories month with cases and without cases. Month with high incidence of orofacial trauma is July with 4 (40%) cases, followed by March with 2 (20%) cases. With 1 (10%) case the months April, August, September and October. The sex category with a high incidence of orofacial trauma is male with a total of 8 (80%) and female with 2 (20%) among a total of 10 (100%). period of highest incidence[12].Similar results were also reported in Kenya[13]. However, in another study by Shamim and Razzak et al., 89% of victims were found to be men[14].The reason may be that men are more mobile and they are more exposed to traffic accidents than women.

Table 3.3 Type of lessions

Type of lessions	Sex (%)		Total (%)
	F	M	
Lession Intraoral	1 (10 %)	2 (20%)	3 (30%)
Lession Extraoral	0 (0%)	1 (10%)	1 (10%)
Both injuries	1 (10 %)	5 (50%)	6 (60%)
Total	**2 (20 %)**	**8 (80 %)**	**10 (100%**

Type of lessions	Sex (%)		Total
	F	M	
Soft tissue	1 (10 %)	2 (20%)	3 (30%)
Hard tissue involvement	1 (10 %)	6 (20%)	7 (70%)
Total	**2 (20 %)**	**8 (80 %)**	**10 (100%)**

In Table 3, there were 2 types of lesions is the intraoral and extraoral lesion, which means that the intraoral consists of buccal, tongue, dentoalveolar and teeth, mainly known as lesion inside the oral cavity. The extraoral consists of forehead, face, chin, cheek, eyes and nose, known as lesion outside the oral cavity. Results of this study are intraoral lesions with 3 (30%), consisting of 2 men (20%) and 1 woman (10%). In addition, another result of the study is 784 patients, 181 (23.08%) have fractures of the maxillofacial skeleton, in which 149 were men and 32 women. The ratio of men and women 4.7:1. The mandibular was involved in 129 patients (71.27%), followed by the zygomatic-maxillary complex in 21 patients (11.60%), nasal with 13 patients (718%), maxillary with 13 (7.18%) and orbital fractures with 5 patients. (2.76%). Both intraoral and extraoral lesions have 6 (60%) cases, consisting of 5 (50%) male cases and 1 (10%) female case. Headgear injury only has 1 case of man. In addition, the involvement of hard tissue and soft tissue injuries in orofacial trauma is 7 (70%) cases, consisting of 6 (60%) cases of men and 1 (10%) case of women, if compared with the soft tissue injury are 3 (30%) cases and consists of 2 (20%) cases of men and 1 (10%) case of women. In summary, all orofacial injuries there are men is predominantly 8 (80%) cases compared to women 2 (20%) cases only in this study. The other result studied is that of the maxillofacial injuries around 34.9% were soft tissue injuries that included contusion, lacerations, abrasions and burns[4,9]. Most of the soft tissue injuries were (n = 286 / 53.1%) localized extraorally. 26% (204) were dentoalveolar injuries, 23.1% (181) fractures and 7% (55) were involved in more than one type of injury[15] according the result investigation cited by Carlos Tilman & João Bosco, 2022.

This project was considered by the Institute National of Health-Research Technical Committee Meeting. The Approval Letter, Number of Reference:1520/ MS-GDE/VIII/2022, Principal Investigator will be submitting any necessary report related to the safety of research participant in accordance (INS-RETC) policy and procedures.

CONCLUSION

In this study, there are male patients, 8 (80%) predominate, compared to only 2 (20%) female patients in the Suai-Covalima Referral Hospital Emergency room service. Orofacial trauma should

be treated orally by the maxillofacial to maintain and fix intraoral and extraoral lesions. In this study, the month of July has a high incidence registered in the Suai-Covalima Referral Hospital Emergency room service with 4 (40%) cases, compared to another month in 2019. The main cause of trauma is traffic accidents. The average age is 21-25 and 31-35 years is older with 2 (20%) cases. In addition, both intraoral and extraoral cases with 6 (60%) cases and mainly affectation of soft tissue injuries and hard tissues in 7 (70%) cases, according research investigation cited by Carlos Tilman & João Bosco, 2022.

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