



ISSN: 0976-3031

Available Online at <http://www.recentscientific.com>

International Journal of Recent Scientific Research  
Vol. 8, Issue, 2, pp. 15724-15726, February, 2017

**International Journal of  
Recent Scientific  
Research**

## Research Article

### MAXILLOFACIAL TRAUMA AND POST TRAUMATIC STRESS DISORDER

Bobby John<sup>1</sup>., Sobitha G<sup>2</sup> and Sandhya K<sup>3</sup>

Department of Maxillofacial Surgery Govt Dental College, Kottayam, Kerala

#### ARTICLE INFO

##### Article History:

Received 17<sup>th</sup> November, 2016  
Received in revised form 21<sup>st</sup>  
December, 2016  
Accepted 05<sup>th</sup> January, 2017  
Published online 28<sup>th</sup> February, 2017

##### Key Words:

Maxillofacial Trauma, maxillofacial  
skeleton, facial skeleton

#### ABSTRACT

Injuries to the maxillofacial skeleton have become very common in the present scenario. It may vary from simple lacerated wounds to fractures of the bones constituting the facial skeleton. Since the society as become more urbanised with more vehicular, the road traffic accidents being the main etiological factor for the injuries of the facial area. Inter personal violence, falls, sports injury all contribute to the trauma of this area. The trauma to the facial skeleton carries great consequence to the victim, since it create disfigurement and deformity leading to the personality disorder. A small scar is sufficient to bring down the morale of the patient, so any fracture deformities will definitely demoralise the victim. Psychological morbidities are major complications following maxillofacial injuries. So the institution of the management of trauma to the maxillofacial arena is very important in redesigning the original appearance and addressing the psychological issues

**Copyright © Bobby John et al, 2017**, this is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original work is properly cited.

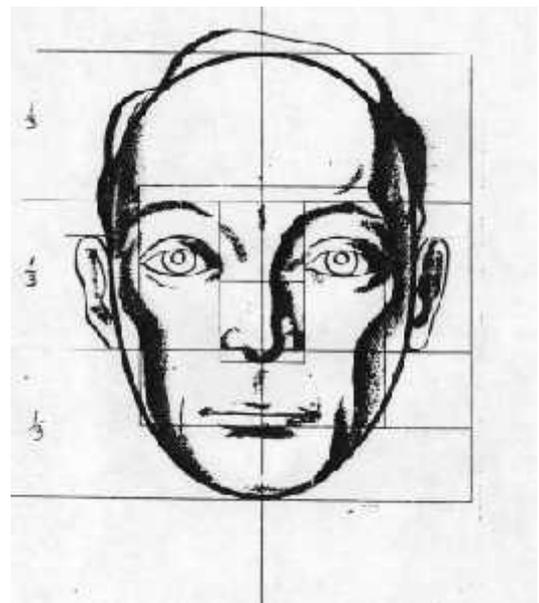
#### INTRODUCTION

Face is the seat of expressions and emotions, so any change in the appearance is capable of igniting consequences and thus leading to the personality variations. So the maxillofacial injuries are very important. Vibha Singh 2012, concluded in their study the road traffic accidents being the main etiological factor for the injuries of the facial area. Inter personal violence, falls, sports injury all contribute to the trauma of this area. There are some differences in the frequency of the causes between different reports from different countries. These differences may result from differences in socioeconomic factors, national infrastructure development and behavioural factors. Maxillofacial injuries contribute to dysfunctions and disfigurement, which can deteriorate lives of patients and their families. Posttraumatic psychological problems may occur either immediately or later, and some are left without appropriate diagnosis and treatments. The common problems include acute stress, anxiety, behaviour changes and posttraumatic stress disorder (PTSD) (Rusch, 2002; Glynn, 2003; Hull., 2003; Kosakevitch-Ricbourg, 2006. Hull 2003) found PTSD symptoms in 41% of facial trauma victims. The symptoms were associated with loss of daily activities and need of repetitive surgeries.

Most common finding in the trauma of the facial skeleton is abrasions, which means the loss of the superficial layer of the epidermis. In some instances the trauma may lead to deep lacerations or even tissue loss. These insults lead to the

incidence of scars. Some scars are so grotesque that the individual may suffer from severe psychological trauma.

Fractures of the facial skeleton may be dealt by dividing the whole facial area into three thirds.



Upper third is constituted by frontal bone, middle third by nasal, zygomatic and maxillary bones, lower third by the mandible. Frontal bone fracture results in depression of the forehead, which in turn often creates a significant cosmetic

\*Corresponding author: Bobby John

Dept of Maxillofacial Surgery Govt Dental College, Kottayam, Kerala

problem. In some cases it is symptomatic by presence of headache, visual disturbances etc. The depression in the forehead is unbearable to the patients, especially if the victim is young and unmarried. Inadequate correction leads to mental illness.

Fractures of the middle third involves the maxilla, zygomatic complex and nasal bones. It may be a simple fracture in the Lefort I level, pertaining to the dental skeleton or Lefort II level, a higher one involving nasal and maxilla with symptoms like epistaxis (bleeding from nose), subconjunctival hemorrhage, ocular dysfunction, nerve disturbances and occlusal problems. Higher level fractures are classified as Lefort III, also known as craniofacial dysjunction. It carries risk of extension of fracture to skull base. Loss of teeth is a severe incapacitating situation, which need early intervention or else the patient goes to severe mental trauma. Fractures of nose and zygomatic bones (cheek bones) effects the facial symmetry to a great extent resulting in permanent deformity. Mandible forms the lower third of the face; it's the only movable bone in the facial skeleton. So, the fracture results difficulty in mastication, speech and other functions. It also affects the facial harmony leading to disfigurement and deformity.

#### **Psychological morbidity**

Injuries to the maxillofacial region is carries the victim to a high state of disability. The specialised functions like speech, mastication, smile, olfaction, respiration, everything getting affected by the traumatic insult. The deformity or disfigurements caused by the trauma have a negative impact in the psychological level, leading the patient to become more intrusive. The loss of teeth, particularly in the anterior region makes the patient introvert and thus affecting his or her social and personal life.

There exist a small but growing body of literature addressing psychopathological disorders that may result following oral and maxillofacial surgery (OMFS). An article based on German-multicentre trial, published in the Journal of Cranio-maxillofacial Surgery, pinpointed very high levels of anxiety disorders in patients undergoing OMFS procedures (Hermes, 2007). It's a great challenge before the maxillofacial surgeon to establish a surgical procedure in a poly trauma patient. Trauma resulting in the disruption of the specialized functions that are contained within the cranio-maxillofacial area can be a cause of significant morbidity in such victims. Moreover, trauma can result in permanent facial disfigurement and or initiate a chronic pain state. In group of patients, self image and confidence are challenged by the effects of the trauma. The psycho-social impact of the injury can be profound and long-lasting. The surgical principles of management of trauma patients have traditionally stressed on the initial medical resuscitation and stabilization of injuries followed by the definitive restoration of form and function. The patient's psychological status following facial trauma remains an under considered aspect of their care (Hull, 2003; Shepherd, 1992). The prevalence of psychological illness following facial injuries varies according to the diagnostic criteria used in respective studies undertaken. Between 20% and 30% of adult patients with facial injuries have been reported to have

symptoms of post-traumatic stress disorder (Bisson, 1997; Sen, 2001; Glynn, 2003).

Even minor facial lacerations can produce elevated anxiety and social problems. In one of the few prospective studies of facial trauma patients to date, Sen 2001, found significantly elevated anxiety and depression levels in about one third of their subjects at hospital admission (preoperatively) and a significant increase in mean depression level at 1-year follow-up. Bisson 1997 and Roccia 2005, found that almost one third of their subjects met criteria for post-traumatic stress disorder (PTSD) on 2- to 3-month follow-up, and Glynn and Lento 2004, found significant levels of PTSD symptoms.

Glynn SM, Asarnow JR, Asarnow R, 2003. pointed that the persons who sustain orofacial trauma not only require restoration of physical anatomy and functional status but also may have a need for trauma-related mental services. In particular, survivors of orofacial trauma are at an elevated risk of posttraumatic stress disorder (PTSD) as well as major depressive disorder. Patients with acquired facial trauma are likely to have some unique psychological characteristics. Bisson 1997, summarised in their study that patients with orofacial trauma were more likely to report symptoms of depression, anxiety, and hostility when compared to a matched normal control group.

Shepherd 1992, postulated correlation of facial trauma patients with higher rates of somatoform symptoms, substance abuse, posttraumatic stress disorder symptoms, [PTSD] body image issues, stigmatization, lower quality of life and lower overall satisfaction with life. This affects their marital, occupational and social functioning.

PTSD is a psychiatric disorder that may follow exposure to a traumatic life event. An event is regarded as traumatic if it involves either actual or threatened death or serious injury. PTSD is characterized by 3 clusters of symptoms: (1) persistent and intrusive distressing recollections of the event (eg, nightmares, flashbacks), (2) avoidance of reminders of the event (eg, efforts to avoid thoughts or places associated with the trauma) or numbing of general responsiveness (eg, a manifest loss of interest in previously pleasurable activities), and (3) persistent symptoms of hyperarousal (eg, hypervigilance, difficulty falling asleep).

It is well known that most psychological symptoms after facial trauma occur more in women as facial appearance and disfigurement concerns are more prevalent in them. There have been studies documenting the evidence of PTSD symptoms in adult acquired facial trauma patients. Landmark publication by Grant N Marshall, 2010 broadly elaborated the features of PTSD in maxillofacial trauma patients. The disorder occurs frequently in trauma settings, with studies suggesting an incidence of approximately 20% in the months immediately after hospitalization for the treatment of traumatic physical injury.

Various screening instruments have been developed that assess the severity and/or frequency of symptoms of PTSD. The diagnosis of PTSD is based on signs and symptoms and a thorough psychological evaluation. It should meet criteria in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), published by the American Psychiatric Association.

It involves either an exposure to a traumatic episode or an experience to a traumatic episode. Symptoms cause significant distress in life or interfere with the ability to go about normal daily tasks. The primary treatment is psychotherapy, but often includes medication. Combining these treatments can help improve to overcome the symptoms, teach skills to address the symptoms, help to feel better and learn ways to cope if any symptoms arise again. Psychotherapy includes Cognitive therapy, Exposure therapy, Eye movement desensitization and reprocessing (EMDR) and stress inoculation training (SIT).

All these approaches can help to gain control of lasting fear after a traumatic event. Serotonergic antidepressants (such as fluoxetine and paroxetine, which are the only medications FDA approved for PTSD) are the first-line pharmacologic agents used for PTSD, but medications are best used as in addition to psychotherapy as they rarely result in recovery from PTSD, alone.

## CONCLUSION

To conclude, significant subsets of patients who experience maxillofacial facial injury are at risk for developing psychological sequelae such as PTSD and depression. If undetected and unmanaged, the psychopathology can become recalcitrant and burden the social and vocational functioning of the patients and greatly diminish their quality of life. The encounter with the trauma victim provides the oral and maxillofacial surgeon with opportunities to screen for emerging psychological problems. Many screening instruments are available to assist the surgeon in identifying individuals at risk for subsequent mental health problems. Facilitated referrals to mental health services can be a pragmatic approach for improving comprehensive medical care for these populations and for reducing the potential morbidity of these covert, but disabling sequela.

## References

- American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 4th edition. Washington, DC: Author; 1994.
- Bisson JI, Shepherd JP, Dhutia M: Psychological sequelae of facial trauma. *J Trauma* 43:496, 1997.
- Bryant RA, Harvey AG: Acute stress disorder: A critical review of diagnostic issues. *Clin Psychol Rev* 17:757, 1997.
- Bryant RA, Moulds ML, Guthrie RM: Acute Stress Disorder Scale: A self-report measure of acute stress disorder. *Psychol Assess* 12:61, 2000
- Grant N, Marshall. Screening for psychiatric problems in orofacial trauma setting. *Oral Maxillofacial Surg Clin N Am* 22; 225–229. 2010
- Glynn SM, Asarnow JR, Asarnow R, Shetty V, Elliot-Brown K, Black E, *et al*: The development of acute posttraumatic stress disorder after orofacial injury: a prospective study in a large urban hospital. *J Oral Maxillofac Surg* 61: 785-792, 2003
- Glynn SM, Shetty V, Elliot-Brown K, Leathers R, Belin TR, Wang J: Chronic posttraumatic stress disorder after facial injury: a 1-year prospective cohort study. *J Trauma* 62: 410-418, 2007.
- Hermes D, Matthes M, Saka B: Treatment anxiety in oral and maxillofacial surgery. Results of a German multi-centre trial. *J Craniomaxillofac Surg* 35: 316e321, 2007
- Hull AM, Lowe T, Devlin M, Finlay P, Koppel D, Stewart AM: Psychological consequences of maxillofacial trauma: a preliminary study. *Br J Oral Maxillofac Surg* 41: 317-322, 2003
- Lento J, Glynn S, Shetty V, *et al*: Psychological functioning and needs of indigent patients with facial injury: A prospective controlled study. *J Oral Maxillofac Surg* 62:925, 2004.
- Levine E, Degutis L, Pruzinsky T, Shin J, Persing JA. Quality of life and facial trauma: psychological and body image effects. *Ann Plast Surg*. 54(5):502-10. 2005 May;
- Marshall GN, Miles JN, Stewart SH. Anxiety sensitivity and PTSD symptom severity are reciprocally related: evidence from a longitudinal study of physical trauma survivors. *J Abnorm Psychol*; 119(1):143–50. 2010
- Poramate Pitak-Arnop, Christian Hervé, Jean-Christophe Coffin, Kittipong Dhanuthai, Jacques-Charles Bertrand, Jean-Paul Meningaud. Psychological care for maxillofacial trauma patients: A preliminary survey of oral and maxillofacial surgeons. *Journal of Cranio-Maxillo-Facial Surgery* 39; 515—518. 2011
- Roccia F, Dell'Acqua A, Angelini MD, *et al*: Maxillofacial trauma and psychiatric sequelae: Posttraumatic stress disorder. *J Craniofac Surg* 16:355, 2005
- Sen P, Ross N, Rogers S. Recovering maxillofacial trauma patients: The hidden problem. *J Wound Care*; 10:53-7. 2001
- Shepherd JP. Strategies for the study of the long term sequelae of oral and facial injuries. *J Oral Maxillofac Surg*; 50:390-9.1992
- Stephen M. Auerbach, Daniel M. Laskin, Donald J. Kiesler, Michael Wilson, Bashar Rajab, and Thomas A. Campbell, Psychological Factors Associated with Response to Maxillofacial Injury and Its Treatment. *J Oral Maxillofac Surg* 66:755-761, 2008
- Shirley M. Glynn, Vivek Shetty. The Long-Term Psychological Sequelae of Orofacial Injury *Oral Maxillofacial Surg Clin N Am* 22 :217–224.2010.
- Shofiq Islam, Muhiuddin Ahmed, Gary M Walton, Timothy G Dinan, Gary R Hoffman. The prevalence of psychological distress in a sample of facial trauma victims. A comparative cross-sectional study between UK and Australia. *Journal of Cranio-Maxillo-Facial Surgery* 40: 82—85 2012.
- Tebble N.J, Thomas DW, Price P. Anxiety and self consciousness in patients with minor facial lacerations. *J Adv Nurs*; 47: 417-26.2004.
- Thomas CS, Goldberg DP. Appearance, body image and distress in facial dysmorphophobia. *Acta Psychiatr Scand*; 92:231.1995.
- Vibha Singh, Laxman Malkunje, Shadab Mohammad, Nimisha Singh, Satish Dhasmana, and Sanjib Kumar Das. The maxillofacial injuries: A study. *Natl J Maxillofac Surg*. 3(2): 166–171:2012 Jul-Dec;
- Zatzky DF, Rivara FP, Nathens AB, *et al*. A nationwide US study of post-traumatic stress after hospitalization for physical injury. *Psychol Medv*; 37: 1469–80.2007.