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Maxillofacial Defects: Impact on Psychology and Esthetics

Poonam Prakash, Rahul Bahri and S.K. Bhandari

Abstract

Maxillofacial defects arising due to developmental anomalies, trauma or ablative cancer surgeries pose a challenge to an individual due to alteration in form, function and esthetics. Face is considered to be a reflection of one's personality and existence. Any alteration in facial structures or symmetry alters the esthetics of an individual. This may have a deep psychological impact on the patient affecting self-confidence, self-worth and ability to interact among peers. Maxillofacial Prosthodontics is a specialty that deals with rehabilitation of missing or deformed structures of orofacial region to achieve normalcy as much as practically feasible. A multidisciplinary approach is required to evaluate the psychological status, understand the impact of defect altering esthetics and mental make-up of the patient and follow an organized approach to alleviate the impact of maxillofacial defects in overall life of an individual. This chapter highlights the impact of maxillofacial defect on esthetics of an individual and psychological impact of the same.

Keywords: Psychological evaluation, maxillofacial defect, esthetics

1. Introduction

"It is the God given right of every human being to appear human" [1].

Beauty is the quality or an aggregate of qualities in a person/ thing that gives pleasure to the senses or pleasurable exalts to the mind or spirit. Esthetics is the branch of philosophy dealing with beauty. Body image is considered as "the lifelong anchor for self-awareness" as it is closely related to sense of adequacy and competence [2]. A symmetrical, proportionate facial appearance with equal horizontal thirds and vertical fifths, gives an appearance of esthetically beautiful face. Various proportions like golden proportion exist in nature which gives a perception of dynamic symmetry. Lombardi proposed various principles for esthetics based on laws of nature [3].

Mouth is the most dynamic component of face which provides a unity with variety. **According to Sigmund Freud's theory 'Oral phase' as earliest expressions of "self". Since very early age, mouth is considered as an area of gratification and security. Orofacial region is the reflection of personality, image and primary mode of self- expression for growing young adults and a gateway for proper diet and nutrition in elderly.**

Any defect in the maxillofacial region leads to loss of form, function and esthetics. It compromises the integrity of craniofacial region and thus poses a

deeper impact on an individual altering his personal and social acceptability to a major extent. Rehabilitation of these defects surgically or Prosthodontically restores the function, esthetics to near normalcy and elevates the sense of 'incomplete' to an extent but deep seated insecurities and psychological impact needs to be dealt with, to ensure complete rehabilitation of patient and acceptance in society.

Defects in the maxillofacial region may be intraoral including maxillary defect, mandibular defect affecting continuity of mandible, velopharyngeal defects or defects of soft palate and extraoral defects like residual ocular, auricular, orbital, cranial, nasal or combination defects.

Due to variations in the site and size of defect, the impact of defect on various spheres of an individual's life, the psychological make-up and ability to cope up, esthetic expectations titrated with the realistic rehabilitation options makes maxillofacial rehabilitation a challenging task.

2. Discussion

2.1 Loss and grief in maxillofacial defect

Loss is defined as 'a state of being deprived of or being without something one has had and valued' [4]. According to Peretz, loss may be in form of loss of significant person, Loss of a part of the self, Loss of material object or Developmental loss. Loss of part of human body especially in the esthetic regions like craniofacial region, puts a deep psychological stress on an individual. From the diagnosis of pathology itself to the surgical trauma, followed by healing phase, rehabilitation and finally maintenance and follow up puts individual into a progressive cycle of grief at different stages. The reaction to grief is an adaptive function 'to assure group cohesiveness in species where a social form of existence is necessary for survival' [4]. It follows a pattern of shock and denial characterized by signs of depression and suicidal tendencies in some patients. This is followed by a phase of guilt, anger and a search to find ways to discharge emotional pain. Eventually, adjustment, acceptance and growth takes over where the patient acceptance to loss, tries to make healthy adjustments and formulates new life patterns [4]. A cycle of loss, grief and reintegration must be completed by the patient and understood by the prosthodontist. The role of a specialist is to empathize with the patient and evaluate the need for referral to a psychotherapist.

3. Esthetic impact of maxillofacial defect

Face is the individuality of a person, it is a medium of conveying various emotions, expressions and governs the personality of an individual. Based on age, gender, occupation, social interactions and interpersonal relations, different individuals weigh their appearance differently. But a disfigured, asymmetric face grabs first attention. **Prior to involving the orofacial region, though affected but its integrity is maintained. Post maxillofacial surgery, the resected site leads to loss of continuity and causes an altered disfigured appearance. This is one of the major factors contributing to distress, shame and psychosocial burden for the patient.** Post-surgical depression, hampers healing and makes patient prone to infections [5]. Surgical reconstruction or Prosthodontic rehabilitation attempts to restore the function and esthetics to as near natural as possible with its own limitations and constraints. **The constraints includes anatomical limitations which may limit the extension of the prosthesis, material based on area of application i.e. intraoral or extraoral, patients mental state and ability to accept.**

4. Psychological impact of maxillofacial defect

Maxillofacial defects may be congenital, developmental or acquired. **Acquired defects produce a deeper impact as the individual is not born with the same and is affected later in life, resulting in drastic change in appearance, post-surgical or after Prosthodontic intervention.** They alter the integrity of craniofacial region leading to disruption in normal functioning, maintenance of form and esthetic appearance of an individual affecting overall psychological status of the patient. **The condition might also alter the individual's financial, spiritual and social status due to irreversible loss. Impaired social status due to physical disfigurement and mental impact. Individuals are also affected spiritually as they question 'Why Me'.** Surgical or Prosthodontic modalities help in rehabilitation of the patient to bridge the gap and help to restore his individuality in the society. The whole process may manifest itself into various kinds of psychological impairment including psychoneurotic, psychotic or personality disorders and the treating clinician must observe for clinical signs hinting towards these [6]. These may include:

Anxiety disorders including panic disorder, obsessive-compulsive disorder (OCD), posttraumatic stress disorder (PTSD), social phobia, and generalized anxiety disorder.

Mood disorders or affective disorders, create disturbances in a person's emotional life. Depression, mania, and bipolar disorder are examples of mood disorders.

People with schizophrenia and other psychotic disorders lose contact with reality. Symptoms may include delusions and hallucinations, disorganized thinking and speech, bizarre behavior, a diminished range of emotional responsiveness and social withdrawal.

Personality Disorders are mental illnesses in which one's personality results in personal distress or a significant impairment in social or work functioning.

Cognitive disorders, such as delirium and dementia, involve a significant loss of mental functioning. **Dissociative disorders** involve disturbances in a person's consciousness, memories, identity and perception of the environment [7].

A patient suffering from any mental or behavioral disorder sustains a deeper impact of the disease or the residual maxillofacial defect produced as a result of surgical correction due to altered or reduced tolerance.

5. Psychological classification and interpretation

Evaluation of mental attitude of patients has been an important aspect in clinical case history in Prosthodontics. Various authors like House, Heartwell, Sharry, Gamer et al and others have classified patients based on evaluation of psychological status [8].

This approach may be used for the conventional prosthodontic patient, however in patients with disfigured orofacial region or altered biological function like speech or swallowing it may not hold valid due to the impact being much stronger. In such patients, underlying deep seated emotional distress may get exaggerated. Further, in such an individuals it is critical for the prosthodontist to assess the mental status of the patient, need for referral and modification of treatment modality best suited for the patient.

It becomes paramount that the prosthodontist understand the various psychological diagnoses, ranging from subtle emotional distress to overt psychological disorders, that potentially undermine successful prosthodontic

treatment. For example, if a patient taken up for Prosthodontic rehabilitation, but shows frequent bouts of crying or abrupt temper tantrum is indicative of a depressive mental state or altered psychological condition including panic disorder, obsessive-compulsive disorder (OCD), posttraumatic stress disorder (PTSD), mood disorder or a bipolar state. This may hint the treating prosthodontist for the need of intervention of psychologist or a psychotherapist for better treatment outcome.

6. Management

Management of maxillofacial defects is a multidisciplinary, well planned execution of procedures starting pre-surgery and extending long after rehabilitation is complete. It includes patient awareness, early diagnosis & prompt treatment, role of Healthcare specialist/worker, role of a psychological counselor, family and support groups.

6.1 Patient awareness, early diagnosis & prompt treatment

Awareness, early diagnosis and prompt treatment can help minimize the spread of habit related orofacial cancers, involvement of normal anatomical structures and the extent and size of defect requiring rehabilitation.

Various awareness programs and statutory warnings like increased chances of cancers due to cigarette or tobacco consumption are displayed on television, radio and alongside streets in many Asian countries for awareness of patients about the harmful effects and the dreaded consequences. Also advertisements about treatment options available and life post-rehabilitation are propagated to spread awareness and reduce anxiety among patients.

6.2 Role of Healthcare specialist / worker

Management of patients with maxillofacial defect is a multidisciplinary approach and involves specialists from various branches. Prosthodontic rehabilitation allows replacement of lost structures with artificial substitutes to near normal appearance as possible. For extraoral defects, esthetics is the main concern. Various measures are taken to ensure correct anatomical alignment of the artificial prosthesis, well adaptation, proper retention using retentive aids including anatomical, mechanical or physical means and shade matching. Advancements in technology and introduction of three dimensional scanning techniques using extraoral scanners, reconstructions using DICOM image files, rapid prototyping, and spectrophotometer have enhanced the precision that can be achieved in maxillofacial prosthetics. **For intraoral defect, advancements in material like PEEK and modifications in designs allows to achieve more esthetic results by concealing the metal display and enhancing appearance with function** [9].

To allow patient to accept the treatment and comply with the instructions, it is important that the patient is in psychological state of mind to accept the loss and cope up with the grief. Active listening and empathy are the qualities that the clinician must possess to look past patient's defect and understand the deep seated distress.

Psychotherapeutic techniques help in recognition of the feelings that patient is trying to express and allowing them to express to do so in elaborate form for better understanding and management.

Evaluation of psychological status of patient can be done in form of interviews, rating scales, tests or questionnaires which may be self-administered or by clinician. Some scales to aid in psychological evaluation Becks Depression inventory, Hospital Anxiety and Depression scale, General Health Questionnaire-12/28, ICP, ICF, MMPI and others.

Preoperative care includes understanding that **the diagnosis and breaking the news like cancers puts** the patient into a progressive cycle of loss and grief where they start questioning themselves and their destiny. It is an emotional turmoil for the patient and the family. Letting the patient vent out and come to terms with the reality helps them cope up with the therapy. Patient should be introduced to various survivors groups, AV aids can help in making them understand the progression of the disease and various rehabilitation options available.

The patient and family should be made aware of the emotional reactions and fluctuations they can expect during the postoperative and extended-care phases of treatment. Giving advance warning helps the patient realize that his or her emotional reactions during treatment are normal.

6.3 Postoperative care

Post operatively, the patient is in a vulnerable state as the trauma of surgery added up with the actual loss of part of 'self'. Alteration of facial symmetry, alteration in speech, difficult mastication and esthetic compromise pushes patient into a deep psychological distress. Good communication skills, motivation, psychodynamic therapy, support groups, active listening, empathy can help to improve the mental make-up of the patient and family.

6.4 Extended care & Team work

A rehabilitation specialist, maxillofacial Prosthodontist, reconstructive surgeon are a ray of hope for the patients. A well fitted prosthesis or reconstructive surgical modalities improves patient's condition and enable them to restore form, function and esthetics. Team work including role of psychological counsellor, administration of anti-depressants, nutrition counselling and diet modification to combat the side effects of radiation therapy or dysfunctioning of certain organs like xerostomia, alternate medicine specialists like naturopathy, yoga, mind body exercises can help patient develop a positive mental attitude and improve prognosis of the treatment.

6.5 Case summary

A 42 yrs old male patient reported with a chief complaint of a non-healing ulcer in the palate since 04 months with no facial disfigurement. Patient gave a history of smoking and tobacco chewing since past 08 years. On examination and histopathological investigations, a diagnosis of verrucous carcinoma was arrived at. Treatment plan formulated was surgical resection followed by prosthodontic rehabilitation. On interviewing the patient and history taking, it was felt that the patient was very anxious and concerned about his facial appearance. To check his current state of anxiety, a self administered questionnaire (DASS) was provided and based on the results it was observed that he had moderate-severe anxiety state [10]. His family was addressed and prepared so that they could provide the patient with necessary support needed. When the patient was told about the diagnosis, he was unable to accept it and had bouts of crying. He was counselled and was introduced to a support group with patients who had undergone similar procedure earlier. AV aids were used to motivate the patient and introduce the prosthetic options and their

impact on lifestyle. On active listening, it was observed that patient had a financial crunch due to loss of job and that was another reason for his hysteria. He was introduced to local Non-profitable institution who were ready to share the expense for the surgery. Pre-surgery a mock procedure was shown to the patient. During surgery, maxillectomy was performed using Weber-Fergusson incision that resulted in a large intra oral defect and a visible facial scar. His speech, mastication and nutrition was affected. Depressive state was prevalent as observed in his behavior, response, loss of appetite and unwillingness to meet or talk to others. He was kept of psychological counselling sessions for 03 months on weekly basis and a well fitted definitive prosthesis was fabricated. Post 06 months, he was able to adjust to the condition and volunteered to be a member of support group to help others in similar hardships. His psychological state changed from normal to highly anxious and depressive post-surgery and eventually improved to mild-moderate anxious state post rehabilitation.

7. Conclusion

Psychological health and spiritual well-being are integrated and related states. Maxillofacial defects lead to loss of continuity and leave a residual defect intraorally and/or a visible defect extraorally. This leads to altered esthetics and may have a deep psychological impact on well-being of the patient. Health care providers need to understand these conditions and must exhibit empathy while ensuring high quality rehabilitation. A specialist who can learn to actively listen to patients, communicates with them and understand their feelings, will aid in positive results in the management of their patients.

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References

- [1] Chalian VA, Drane JB, Standish SM. Maxillofacial prosthetics: multidisciplinary practice. Williams & Wilkins Company; 1972.
- [2] Allport GW. Becoming: Basic considerations for a psychology of personality. Yale University Press; 1955.
- [3] Lombardi RE. The principles of visual perception and their clinical application to denture esthetics. J Prosthet Dent 1973;29(4):358-82.
- [4] Taylor TD. Clinical Maxillofacial Prosthetics. Quintessence Publishing Co, Inc. 2000.
- [5] Grieder A. Psychologic aspects of prosthodontics. J Prosthet Dent. 1973 Nov 1;30(5):736-44.
- [6] Ghoneim MM, O'Hara MW. Depression and postoperative complications: an overview. BMC surgery. 2016 Dec 1;16(1):5.
- [7] Hickey AJ, Salter M. Prosthodontic and psychological factors in treating patients with congenital and craniofacial defects. J Prosthet Dent 2006;95:392-6.
- [8] Deshpande S, Babar G, Jain JK. Different Classification Systems of Complete Denture Patients Based on Mental Attitude: A Review IJO CR 2015; 3(2):28-31
- [9] de Caxias F, dos Santos DM, Bannwart LC, et al. Classification, history, and future prospects of maxillofacial prosthesis. Int J Dent 2019;8657619
- [10] Parkitny L, McAuley J. The depression anxiety stress scale (DASS). Journal of physiotherapy. 2010;56(3):204.