

Double Lip Correction for Enhancing Complete Denture Aesthetics

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ABSTRACT

Mucosal reaction to a sharp object like a natural tooth results in hyperplasia of cells, which, when present in aesthetic, critical structures like lips becomes a source of embarrassment and also affects the outcome of a complete denture prosthesis. An elderly female patient complained for masticatory disability since she had lost most of her natural teeth. Extra oral examination revealed presence of maxillary double lip acquired as a result of sharp mandibular anterior teeth. Using a multidisciplinary approach, the double lip was surgically corrected using an elliptical wedge incision. The excised tissue histologically showed hyperplasia of keratinizing and non-keratinizing squamous mucosa and mucosal glands with normal histological features. Complete dentures were fabricated after healing was completed. The patient was highly satisfied with the outcome of the esthetic improvement of both treatments.

INTRODUCTION

Double lip (macrocheilitis) is a rare congenital anomaly that has a unique distinction of also being acquired due to secondary trauma. The congenital form has no gender or race predictions, [1] while it is commonly located on maxillary lip or mandibular lip in isolation only. The condition is used to describe a deformity of either the maxillary or the mandibular lip presenting as a fold of labial mucosa that is apparent at rest or smiling [2,3]. The acquired form of double lip is not associated with any other genetic abnormality, but is due to the chronic trauma, the presence of which needs to be evident since the treatment approach may vary if the acquired systemic component is present. One of the reported acquired systemic situations is a syndrome described by Ascher, which includes Blepharochalasis, double lip and thyroid enlargement [4]. When it is secondary to trauma, there is the presence of excessive areolar tissue and non-inflammatory labial mucous gland hyperplasia [5]. Depending upon the severity of the hyperplastic growth, an individual may face difficulties in normal functioning. Prosthodontic implications are mainly related to facial esthetics and denture phonetics. Clinically, during mouth closure the extra lip may or may not be visible (growth dependant) but during smiling when the main lip is retracted or pulled over the maxillary teeth, the redundant tissue sags down thus resulting in a cupid's bow appearance of the maxillary lip [6]. Although deficient support for complete denture can be enhanced by providing denture plumper [7], excess amount of tissue cannot be

compensated within the denture since excess tissue compromises denture stability and retention. This article in the form of a case report presents a case of an acquired maxillary double lip, which was aesthetically impairing the results of complete denture prosthesis. Esthetic impairment in such cases has also been discussed

CASE REPORT

A 60 year old female patient, reported to the department of prosthodontics with a chief complaint of difficulty in mastication because of complete loss of posterior teeth. She also complained of the presence of excess tissue below the maxillary lip which looked very unpleasing to her family. She reported that the tissue mass had increased, especially after the removal of her maxillary anterior teeth. Her medical, social and drug history was non-contributory. Extra oral examination revealed a mouth opening within normal limits with no temporomandibular joint dysfunction. Redundant tissue involving maxillary lip bilaterally was apparent at rest as well as smiling. The excess tissue protruded downward from the maxillary lip and resembled the “cupid’s bow” during smiling, laughing and even talking (Figure 1A). The excess growth of tissue was asymmetrical with more tissue on the left side compared to the right. Intra oral examination revealed presence of the mandibular central incisors that were worn at different angles from mesial to distal side. Both mesial sides of mandibular incisors were sharp and in resting position, the sharp edges corresponded to the overlying hyperplastic lip tissue. Maxillary ridge was completely edentulous while mandibular residual alveolar ridge presented with a Kennedy class 2 modification 1 situation with only four natural teeth present (three anterior and one posterior molar). After taking an opinion from an oral surgeon and a periodontist, Three different treatment options were presented that included implant supported mandibular overdenture opposing a maxillary single complete denture or mandibular overdenture opposing maxillary single complete denture or conventional complete denture after extraction of remaining natural teeth. For all the above mentioned treatment options, surgical excision was recommended to the patient. The patient finally consented to the treatment plan of surgical excision of redundant maxillary tissue and surgical extraction of remaining natural

teeth followed by complete denture prosthesis. A tentative single maxillary complete denture was fabricated which would act as a surgical guide to aid in the amount of tissue removed.

Surgical procedure involved outlining of the hyperplastic tissue (Figure 1B) followed by placement of an elliptical wedge shaped incision (Figure 1C). The excised tissue was removed and sent for histopathological examination. The wound was closed with resorbable chromic gut sutures in deep layer and nonresorbable monofilament sutures superficial. The lips were noted to be symmetrical, without thinning of the maxillary lip with the tentative single maxillary denture into position. The topical vitamin E was prescribed to the patient to avoid tightness secondary to scar tissue and was placed on routine follow up. After receiving a histological report and assured soft tissue healing routine clinical and laboratory procedures for denture fabrication were conducted to prepare the definitive maxillary and mandibular denture. The definitive dentures synergised with surgical pre prosthetic correction satisfied the patient's desires (Figure 1D). Regular follow up were done for a period of one year. The patient continues to wear the prosthesis with no relapse of growth of maxillary lip.

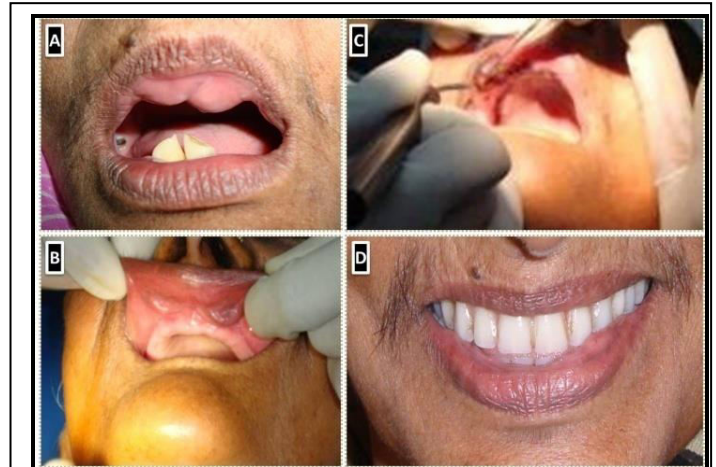


Figure 1: A) Extra oral view of double lip seen in conjunction with mandibular teeth B) Incision outlines C) Placement and removal of incisions using servotome D) Definitive complete denture prosthesis with normal maxillary lip.

DISCUSSION

Congenital form of double lip is uncommon while the acquired form is frequent. The maxillary lip mucosa during development is made up of two transverse zones, a cutaneous zone (pars glabra) and an inner mucosal zone (pars villosa). In congenital

forms, the enlargement of the lip is present at birth, becoming more apparent after the eruption of the teeth [8,9]. The congenital form of the double lip has been reported to be associated with bifid uvula and cleft palate [10]. The case discussed in this report is acquired in nature. Two types of acquired forms are reported. One is secondary to chronic trauma and/or oral habit and the other is secondary to systemic disorder like Aschers syndrome [4]. However, the clinical difference is the type of lip enlargement between the two acquired forms. When the double lip is associated with thyroid enlargement, the lip becomes enlarged that is suggestive of angioneurotic edema type which over a period of time resolves [11,12]. Therefore, detailed history of lip enlargement is necessary for differentiation. Other disorders that may present a similar clinical picture are angiodema, vascular tumor, cheilitis glandularis, cheilitis granulomatosis, infectious etiology, mucous retention cyst, mucocele, salivary gland tumor and inflammatory fibrous hyperplasia [2,13,14]. The acquired form due to oral habit has been suggested to be a reactive process after a “sucking-in” of the tissue between the teeth, or ill-fitting dentures have been done for a long time. A condition that arises due to trauma from denture prosthesis need to be differentiated from double lip arising due to chronic trauma as in this case. The condition called as epulis fissuratum, may present a similar histologic picture as that of the double lip since both represent a reactive tissue alteration related to persistent sublethal trauma [15]. Clinically, the differentiation is simple since the location of epulis is directly in relation to an overextended denture border and subsides immediately once dentures are withdrawn. Histological findings may be similar which may include fibrous connective tissue which is predominantly covered by hyperkeratotic squamous epithelium with irregular and elongated rete pegs and sometimes pseudoepitheliomatous hyperplasia [16]. Chronic inflammatory cell infiltration may lead to false assumption of sarcoma which is why the pathologist should be well familiar with the clinical picture [17]. Other differentiating features are female and maxillary arch predilection associated with epulis fissuratum.

The aesthetic impact on the face is evident to the observer due to which the individual is prone to develop psychosocial inhibitions. Facial expressions are affected to a greater extent since the pronunciation of labial and dento-labial sounds becomes inarticulate for the individual. If the natural teeth are present, then the excess tissue may be hidden while the lips are at rest position and depends on the extent of the tissue present. The lips in a normal resting position become inverted, creating a pronounced convex facial profile and altering the normal lip relation. The relation of vermillion borders of the lips is altered and more of the oral mucosa becomes visible to the observer. The vast color differences between the keratinized skin, ortho or parakeratinized and non-keratinized oral mucosa become a striking feature on the face. This grabs the attention of onlookers and the patient becomes conscious of his facial image. The case presented in this article had opposing central incisors that were quite sharp present. If maxillary natural teeth would have been present, then rounding the sharp margins would have been enough and mucosal hyperplasia would have resolved over a period of time. Surgical correction is indicated when the patient desires to improve facial esthetics sooner than otherwise and when the tissue is excessive. Double lip can be corrected by several surgical techniques like W-plasty, electrosurgical excision or a triangular surgical excision. However, maintaining the size, shape and position of the vermillion border along with the effects of muscular attachments near the labial frenum are influencing factors for the surgical approach [18]. Whenever, incisal approach to correct double lip is decided, it is mandatory that the incisions are placed at precision distance to avoid the ill effects of excessive or deficient tissue [19]. An important aspect of surgical correction is the amount of tissue to be removed and a multidisciplinary approach is essential to achieve the objectives [20]. A simple referral to the oral surgeon has pitfalls, therefore the prosthodontist should either provide a surgical template or should be present during the surgical procedure. A tentative maxillary complete denture was fabricated in this case to assist surgical correction. A tentative try in was done before suturing the area, the goals of which were laid down before surgery. Any inconsiderate denture trial procedure will not achieve the desired objectives [21]. Establishing the correct relations between the teeth and the corrected maxillary lip are key to the production of labio-dental sounds like sounds |F| and |V|. To a lesser extent

the production of labial sounds like |M|, |B| and |P| also depends upon the amount of correction desired during lip surgery [22]. Therefore, teeth arrangement of tentative complete denture should be done with consideration of the amount of tissue that shall be removed after surgery. The lab dental sounds have a definite bearing when there is a mandibular double lip which was not in this case. For maxillary double lip surgical correction, the labial sound production is more significant.

CONCLUSION

Double lip that is acquired as a result of chronic trauma should be considered as part of pre prosthetic mouth preparation to instill proper facial esthetics. The procedure is simple, economical and does not consume much time for the patient.

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