

Surgical Reconstruction of Microtia with
“Fishtail Flap” Technique

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Article Information

Received date: Sep 30, 2017

Accepted date: Oct 26, 2017

Published date: Nov 02, 2017

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Abstract

Microstomia refers to limitation in mouth opening. It is usually seen as an acquired situation but it can also be seen congenitally. As a result, it leads to aesthetic and functional deformities. Narrowing of mouth opening causes restriction in intake of nutrients, implantation of prostheses, ensuring dental hygiene and dental treatment, making intubation difficult or even impossible. In this article, we present the result obtained by the “fishtail flap” method with commissuroplasty in a case referred to the microstomia seen after a surgical procedure.

Introduction

Correction of microstomia is often maintained by conventional surgical methods which require a long process and high surgical skills [1]. With the “Fishtail” technique, it was observed that the intercommissural distance and interincisal distance could be increased by more than 10 mm and 5 mm, respectively, while preserving the specific structure of the mouth commissure [2]. According to conventional surgical techniques, the “fishtail” technique is aesthetically and functionally acceptable, cheap and practical.

Lips are the primary aesthetical determinant of the lower face area and as well they have functional features such as speech and food intake. Genetic disorders, connective tissue diseases (systemic sclerosis etc.), facial trauma, scars due to burns, perioral tumor surgery, caustic substance exposure may cause microstomia by disrupting oral commissure structure. Hypertrophic scar formation and contracture developed by current causes often lead to ectropion in the lower lip, leading to deterioration of salivary flow, chewing and speech functions and impairment of oral hygiene.

The most important procedure in the treatment of microstomia is prevention. Various methods of commissuroplasty have been reported in literature.

Case

A 56-year-old male patient presented with complaint of limitation in mouth opening and inability to use tooth prosthesis for 8 months after vermilionectomy due to microinvasive squamous cell carcinoma of the lower lip. Physical examination revealed the distance between two commissures was narrow and there was a limitation in the opening of mouth. Surgery was planned and the patient underwent “fishtail” technique to correct microstomia under sedoanalgesia. Additionally pericommissural mucosal advancement flap was involved. Sufficient oral opening was provided in the postoperative period.

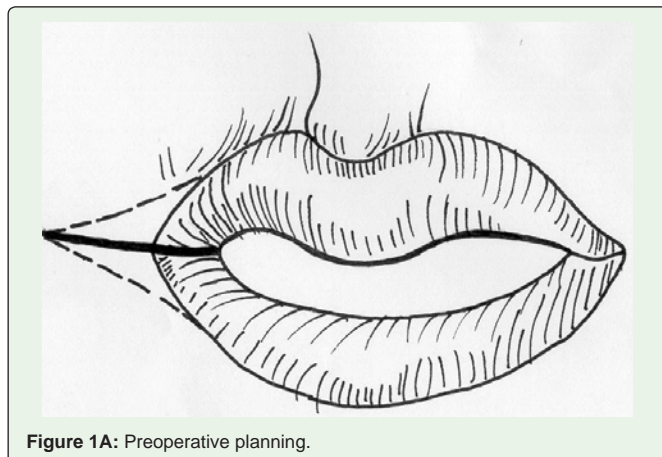
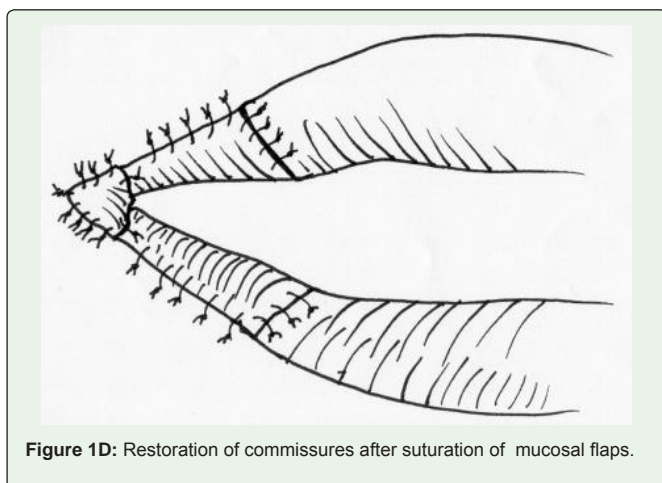
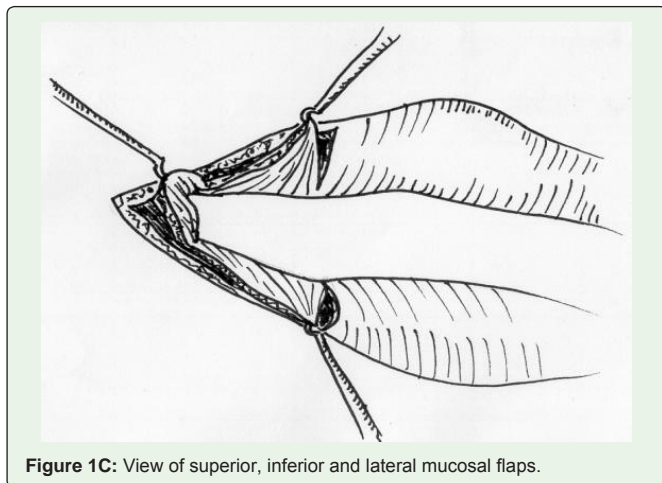
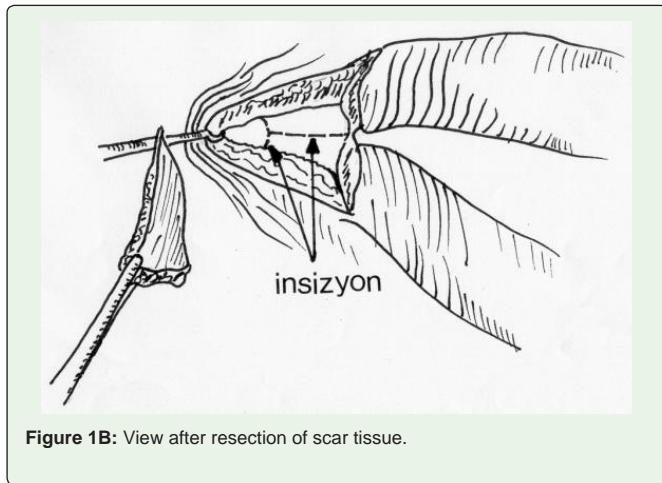


Figure 1A: Preoperative planning.



Surgical Technique

Microstomia correction requires having a good knowledge of the multi-layered, complex structure of the perioral muscles, the vermillion line and the oral mucosa, as well as high surgical skills.



Citation: Evman MD, Aydin S, Avci H and Yogurtcu N. Surgical Reconstruction of Microtia with "Fishtail Flap" Technique. SM J Case Rep. 2017; 3(7): 1067.

First of all, the location of the new commissure should be determined. The position of the new commissures is marked according to the vertical lines passing through the pupils. (A) These points are joined with the upper and lower lip vermillion line. The resulting triangular shaped area is excised to include skin and subcutaneous tissues and is marked (B) Superior, inferior and broad-based lateral mucosa flaps are prepared with incisions made in the mucosa. (C) Superior and inferior vermillion edges are formed with superior and inferior mucosal flaps and a new commissure is formed with lateral mucosa flaps (D) (Figures 1A-1H).

Discussion

Congenital or acquired microstomia deformities may lead to functional problems as well as aesthetic problems. Several surgical methods have been described for commissuroplasty. Diffenbach reported the use of superior, inferior and lateral mucosal advancement flaps in 1831 after excision of scar tissue. This technique was later modified by Converse in 1959 and Frielander in 1974. Kazanjian and Roopenian have proposed the vermillion advancement flap or buccal mucosal stabilization flap after the opening of the mouth corner [1,2]. Gillies and Millard used the vermillion transposition flap in the upper lip followed by the buccal mucosal advancement flap in the upper lip and the vermillion advancement flap in combination with the Z-plasty. In a later study, Anderson and Kurtay reported the use of the bipediclevermillion transposition flap. Fairbanks and Dingman

created two separate flaps and commissures with an oblique incision made on the vermillion. Jackson described two "rhomboid" mucosal flap lateral rotations. None of the methods described have distinct advantages over each other [1].

In our case, commissuroplasty was applied with the "fishtail" method which is accepted as cheap, practical and functional according to conventional methods. In the postoperative period, the interincisal distance was measured as 45 mm and the intercommissural distance was measured as 65 mm, and the desired result was achieved and the mouth openness was maintained in the late period implants [3].

We conclude that "fishtail" method is an inexpensive, practical and functional method with acceptable aesthetic results.

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