



Original Article

Frenuloplasty with A Splitthickness Skin Graft

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ABSTRACT

Background: Experience with frenuloplasty differs in different centers and there are many techniques in this regard.

Objective: The purpose of this study was to investigate the severity of presenting symptomatology in patients with ankyloglossia and to assess the surgical results of patients undergoing frenuloplasty with split thickness skin graft.

Method: During a 4 year period from September 1998 through September 2002, 19 patients of ankyloglossia underwent frenuloplasty with a split thickness skin graft. All skin grafts were taken from arm.

Results: There were 11 males and 8 females. The average length of the lingual frenulum was 3.5 mm. Twelve children were over 4 years old and were primarily operated with this technique. In the 7 patients, Z plasty had been performed previously but failed and cicatrization caused ankyloglossia. There were two minor postoperative complications, one hematoma, and other graft dehiscence with cicatrization. The mobility of the tongue after one year was excellent. There were no complications in donor site.

Conclusion: Frenuloplasty with split thickness skin graft is the best and easy procedure with good results for children over 4 years and those who fail primary closure. (Rawal Med J 2006;31:64-66)

Key words: Ankyloglossia, frenuloplasty, tongue-tie.

INTRODUCTION

Any physical restriction of the normal movement of the anterior tongue means ankyloglossia (tongue-tie), and is often the consequence of a short lingual frenulum. Incidence of this congenital deformity is reported to be between 0.2 and 6.8 per 1000 birth.1-2 Tongue-tie may contribute to the difficult articulation of specific tongue thrust sounds (T, D, L, N, S, Z, R and TH) in English,3 and (•-•-•-•-•-•-•) in Arabic and Persian. Poor sucking, chewing and swallowing may be due to tongue-tie. Ankyloglossia may cause mandibular problems, malocclusion and immobilized tongue results in poor oral hygiene and interferes with wind instrument.4-5

The diagnosis is made by observation of lingual mobility (Fig.1), and measuring the frenum length. These patients cannot extend the tip of their tongues beyond the lower incisor teeth. Distance of the free anterior tongue from the point of frenulum attachment and maximal inter-incisor distance at which the fully extended tongue tip can touch the maxillary incisor are measured.6 Techniques for short frenulum have included laceration of short frenulum technique by midwives in newborns in the labor room, cutting with scissors, Z- Plasty,7 full thickness buccal mucosal graft8 and cutting by

bipolar scissors.⁹ This article describes a new technique frenuloplasty with split-thickness skin graft for treatment of ankyloglossia.

Fig.1.Preoperative view of 4-year old child with a characteristic notched and restricted tongue in extension.

METHOD

A series of 19 patients underwent frenuloplasty with split thickness skin grafts during 4 years from September 1998 through September 2002. In all children, families were offered traditional treatment methods as well as the newer procedure frenuloplasty with split thickness skin grafts. The patients were placed in tonsillectomy position; under general anesthesia the mouth was held open with special Davis gag. The short frenulum was divided horizontally immediately below the under face of the tongue and above the level of the papillae (orifices) of Wharton, s duct. Care was taken in undermining the mucosal edges to avoid injury to the underlying genioglossus muscle unless it is ankylosed.

A split thickness skin graft was taken from arm. The graft was fusiform shaped about 10 mm in length and 5 mm in width, but could be whatever is necessary to fill easily the mucosal defect created in the floor of the mouth. The skin graft was sutured into the sublingual wound with at least six deep stitches of absorbable suture holding it in good position. Patients were sent home with a prescription for 7 days amoxicillin and acetaminophen for pain.

Fig.2. Preoperative view of the short frenulum and tethered tongue

RESULTS

There were 11 males, 8 females in the study and the age ranged 1-21 years. The diagnosis in all patients was ankyloglossia. The average length of the lingual frenulum was 3.5 mm. 12 patients were over 4 years old and primarily operated with this technique, in 7 patients Z plasty was done before but failed and cicatrization causes ankyloglossia.

There were no complications during surgery; only two minor postoperative complication, one hematoma and one graft dehiscence with cicatrization were noted. In long term follow up, the mobility of tongue was improved and no complication with the donor site was seen.

Fig 3. One year after frenuloplasty: elevation of tongue

DISCUSSION

At present, the indication for surgically dividing a short frenulum rests on the clinical judgment of the surgeon. The aim of surgery is improvement in periodontal disease, speech, and problems that are induced by tongue-tie, if it is to be corrected, before speech development.¹ Historical study of surgical treatment of the ankyloglossia refers to Fletcher and Godly in which they found that those children with the longest frenulum had a statistically significant lower rate of articulation errors.⁸ However, in tongue-tie, person may develop compensatory lingual movements. An objective assessment of the frenulum continues to be difficult, but the young age of most patients makes measurement unreliable and frustrating.¹⁰ Even measurement under general anesthesia was unreliable, because there is stretch and tension in soft tissue landmarks.⁸

Clinical assessment of a short frenulum and restricted tongue movement with the opinions of speech therapist and orthodontist is the best way of decision for surgery. Most authors couldn't say on the postoperative mobility of their patients or about surgical results, because, there is high incidence of scar formation and recurrent ankylosis,¹ after closing a horizontal division of the frenulum. The insertion of a buccal mucosal graft in the closure line, the scar wouldn't form and recipient site is very nice, but in the donor place there is scar formation and sometimes hematoma. The frenuloplasty with split thickness skin graft is a reliable and easy technique with no complication in donor site or recipient place.

We found this technique excellent for those who had poor results from previous surgery and in children older than 4 years. In conclusion, our experience with 19 patients undergoing frenuloplasty with split thickness graft showed this new technique to be effective and technically easy to perform, with good results for, child over 4 years and those who fail primary closure.

REFERENCES

1. Catlin FI, De Han V. Tongue-tie. Arch Otolaryngol 1971;94:548-557.
2. Ketty N, Sciallo PA. Ankyloglossia with Psychological Implication. Dent Child 1974; 41:43-46.
3. Horton CE, Crawford HH, Adamson JE, et al. Tongue-tie. Cleft Palate J 1969;6:8-23.
4. Montgomery W: Surgery of the Upper Respiratory System. 32,1989.
5. Mesner AH, Lalakea ML. Ankyloglossia, controversies in management. Int J Pediatr Otorhinolaryngol. 2000;54:3-31.
6. Daly DA. Sublingual Dimensions in Infants and Young Children. Arch Otolaryngol 1969;99:292.

7. Bluestone CD. Pediatric Otolaryngology 1996;989-990.
8. Godley FA. Frenuloplasty with a Buccal Mucosal Graft. Laryngoscope 1994; 104:378-381.
9. Saleh HA. Bipolar Scissors Division of Tongue-Tie. Laryngoscope 1999;109:838-839.
10. Williams WN, Waldron CM. Assessment of Lingual Function when Ankyloglossia (Tongue-tie) is suspected. J Am Dent Assoc 1985;110:353-356.

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