ADIEU TO TONGUE TIE. LINGUAL FRENECTOMY: A CASE REPORT

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ABSTRACT

A Frenum is a fold of mucous membrane, usually with enclosed muscle fibers, that attaches the lips and cheeks to the alveolar mucosa and/or mucosa and underlying periosteum. Tongue tie or ankyloglossia is a developmental anomaly of the tongue characterized by an abnormally short, thick lingual frenum resulting in limitation of tongue movement. It causes difficulty in speech articulation due to limitation in tongue movement. In this article we report a case of 24 years old female with Tongue tie, complaining of difficulty in speech. It was surgically treated with uneventful healing and good patient satisfaction.

Keywords: frenum, lingual frenum, ankyloglossia, tongue tie.

INTRODUCTION

Frenum is a fold of mucous membrane, usually with enclosed muscle fibers, that attaches the lips and cheeks to the alveolar mucosa and/or gingiva and underlying periosteum. It is also known as frenulum, frenulums, frenula, or frena. Ankyloglossia, commonly known as tongue tie, is a congenital oral anomaly which may decrease mobility of the tongue tip and is caused by an unusually short, thick lingual frenulum, a membrane connecting the underside of the tongue to the floor of the mouth.¹ Wallace defined tongue-tie as "a condition in which the tip of the tongue cannot be protruded beyond the lower incisor teeth because of a short frenulum linguae, often containing scar tissue."² A lingual frenum attachment limits the tongue's range of motion. The term free-tongue is defined as the length of tongue from the insertion of the lingual frenum into the base of the tongue to the tip of the tongue. Clinically acceptable, normal range of free tongue is greater than 16 mm³.

Kotlow Classification of ankyloglossia³

- Class I Mild ankyloglossia (12-16 mm)
- Class II Moderate ankyloglossia (8-11 mm)
- Class III Severe ankyloglossia (3-7 mm)
- Class IV Complete ankyloglossia (< 3 mm)

Case Report

A 24 years old female reported to the Department of Periodontics, with complaint of difficulty in speech and complete protrusion of the tongue. General examination of the patient was normal. Medical history was non-contributory. On intraoral examination the individual was diagnosed with ankyloglossia (tongue tie) and was classified as Class II ankyloglossia by utilizing Kotlow assessment. (Figure 1) She was able to protrude the tongue upto lower lip. There was neither any gingival recession in relation to mandibular incisors lingually nor any malocclusion present. Surgical frenectomy of the lingual frenum was planned. The patient was informed about the treatment procedure and informed consent was obtained.

Procedure

The procedure was performed under local anesthesia with 2 % lignocaine hydrochloride and 1:80,000 adrenaline by using

scalpel method. A curved haemostat was inserted to the bottom of the lingual frenum at the depth of the vestibule and clamped into position followed by giving two incisions at the superior and the inferior aspect of the haemostat. Intervening frenum was removed using 11 no. surgical blade and a diamond shape wound was obtained. (Figure 2) Complete dissection was performed by separating the fibers to achieve a good tension free closure of the wound edges. This primary closure of wound minimizes scar formation. Sutures were placed by avoiding adjacent vital structures. (Figure 3) Bleeding was minimal and controlled with pressure. The patient was advised to resume normal soft diet as tolerated. To avoid any post-operative discomfort, antibiotics and analgesics were prescribed for three days. After one week, sutures were removed and good initial healing was observed. The patients were asked to perform tongue exercises for four to six weeks post-operatively following guidance of speech therapist to enhance the tongue mobility and to reduce the potential for scarring. There was significant improvement in speech and gain in tongue protrusion and elevation as compared with pre-operative measures of the tongue mobility. (Figure 4)

DISCUSSION

Ankyloglossia is a rare congenital oral anomaly that causes difficulty in breast feeding and speech articulation.³ This anomaly is characterized by the attachment of the tongue to the floor of the mouth. The condition is the result of a failure in cellular degeneration leading to a much longer anchor between the floor of the mouth and the tongue.⁴ Ankyloglossia represents a typical interdisciplinary problem concerning different specialties in dentistry. In many individuals ankyloglossia is asymptomatic and may resolve spontaneously. Therefore, surgery for ankyloglossia should be considered at any age depending upon patient's history of speech, mechanical and social difficulty.⁵ Surgical techniques for the therapy of tongue-ties can be classified into three procedures. A) Frenotomy is a simple cutting of the frenulum. B) Frenectomy is defined as complete excision, i.e., removal of the whole frenulum. C) Frenuloplasty involves various methods to release the tongue-tie and correct the anatomic situation.

Fig. 1 Pre-operative view showing class II ankyloglossia

Fig. 2 Excision of frenum

Fig. 3 Placement of sutures

Fig. 4 Four weeks Post-operative view

There is no sufficient evidence in the literature concerning surgical treatment options for ankyloglossia to favor any one of the three main techniques.⁶ Messner⁵ in his study found more than 75 % patients have demonstrable improvements in speech articulation as judged by speech pathologist post-operatively as compared to pre-operatively. Post-operative exercise following tongue-tie surgery were not intended to increase muscle strength, but to: i) Develop new muscle movements, particularly those involving tongue-tip elevation and protrusion, inside and outside of the mouth, ii) Increase kinesthetic awareness of the full range of movements the tongue and lips can perform, iii) Encourage tongue movements related to cleaning the oral cavity, including sweeping the insides of the cheeks, fronts and backs of the teeth, and licking right around both lips.^{5,6}

CONCLUSION

Ankyloglossia or tongue-tie in most cases is a relatively harmless condition and the treatment is relatively simple effective and safe. In the present case report, lingual frenectomy was done by scalpel technique which provides practical benefit to the patients. There is no enough evidence in the literature to draw any sound conclusion about the timing of surgery for ankyloglossia. Furthermore, no specific

surgical method can be favored over others or suggested as the modality of the choice.

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