

Correction of Speech Defect and Psychological Boosting Associated with Ankyloglossia

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ABSTRACT

Introduction: Ankyloglossia or commonly referred to as tongue tie is a oral anomaly arising as a result of a congenital defect. It may be totally problem free i.e asymptomatic or can cause breast feeding problems, speech defects, and in certain cases dental malocclusions and associated problems.¹

Case Report: The present case involves a 12 yr old girl with speech defects and psychological issues who was evaluated for the speech defect and subsequently treated for ankyloglossia with 980nm diode laser and referred to a speech therapist and student counsellor for further follow up.

Conclusion: Though the etiology of ankyloglossia is unknown, careful evaluation of the condition has to be monitored. Though in most cases surgical separation of the frenum using a blade or laser solves the condition. Care must be taken to see if conservative approach can solve the issue, this can be achieved only by associating with allied medical professionals.

Keywords: Ankyloglossia, speech defect, speech therapist, Hazelbaker, Kotlow

INTRODUCTION

Ankyloglossia is a congenital abnormality associated with a short lingual frenum. Commonly associated problems associated with tongue tie include breast feeding, speech difficulty, malocclusions, and also periodontal problems.¹ Speech difficulty in some individuals results in inferiority complex which during the formative years can make a drastic impact.⁷ Most of the patients treated for ankyloglossia usually involve surgical or more lately laser treatment for the condition. Tongue tie incisions are usually safe and also have the most minimal of complications.² The present case involves treatment of a patient with ankyloglossia in a collective manner involving speech therapist, psychologist and dental surgeon.

CASE REPORT

A 12 year old girl was referred to the clinic by a speech therapist for correction of tongue tie. The patient was earlier treated by psychologist and speech therapist for evaluating the condition. Patient was assessed for misarticulations in speech i.e pronunciations, omissions of any syllable. Psychological stress was evaluated as patient was having difficulty communicating and making friends, due to which the patient was stressed (figure-1,2).

Taking these factors into consideration, patient was referred for correction of tongue tie. Laser assisted correction of ankyloglossia was preferred over the conventional scalpel method owing to the patients mental status and feedback from allied medical professionals.

Assessment of Tongue tie was done using Hazelbaker Assessment tool for lingual frenum attachment and Free tongue length was based on Kotlows classification. According to

Hazelbakers tool, Appearance, elasticity, length had scoring of 1. Attachment of lingual frenum to alveolar ridge, it was 2 (figure-3,4).

In terms of function, lateralization, cupping and anterior spread was 1. Lift and extension was 0.

In terms of Kotlows classification, it was graded as Class 2, which was moderate ankyloglossia.

Patient was given a demonstration of the laser for motivation. Informed consent was taken. Lasing was done under Local anaesthesia (2% lidocaine HCL) with a 980nm diode laser (Denmat, USA), with a 400um fiber tip at 3W pulsed mode and a pulse width of 500msec for a total treatment time of 3mins with 30 sec interval. Copious irrigation was performed. Patient was given instructions following the procedure and referred to speech therapist and psychologist for further evaluation. Patient was recalled after 3-4 weeks (figure – 5-9).

After 4 weeks, the patient reported back to the clinic for followup. On evaluation, significant changes were observed in terms of tongue extendibility. Appearance, elasticity and length had a scoring of 2. Elasticity had a score of 2 and appearance was square.

But the most striking finding was the the scoring of lift and extension which was 2. This could be more or less attributed to the positive influence the patient developed after proper pronunciation of syllables could be made.

Patient was further referred to psychologist and speech therapist for follow up and evaluation.

DISCUSSION

The importance in a multidisciplinary approach for treatment of Ankyloglossia could be highlighted in the present case. Intervention of allied medical professionals in the treatment of this condition has its benefits in the long run.⁴ Proper Myofunctional training is important for a positive result.³ As the tongue is a highly muscular and vascular structure, protocols have to be placed when any surgical procedure is carried out. In such context Laser assisted frenectomy is possibly the safest and easiest method to perform.⁶ In terms of speech therapy treatment, most of the cases of improper articulation related to speech are treated by speech therapists or speech pathologist.¹⁰ Some conditions causing Speech defects, in

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Figure-1: Preop Hazelbaker Assessment 1; **Figure-2:** Preop during extension



Figure-3: Preop Hazelbaker Assessment 2; **Figure-4:** Pre and Post op Images



Figure-5: Post op at stretching; **Figure-6:** Post op after 1 month

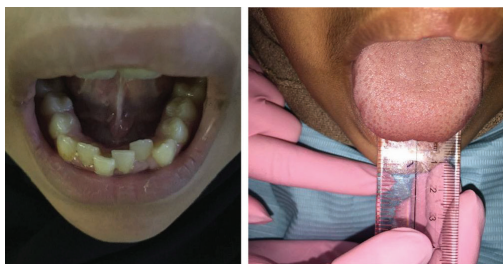


Figure-7: Post op after 3 months; **Figure-8:** Post op after 1 month extension

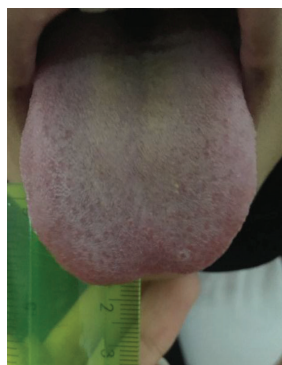


Figure-9: Post op after 3 months

particular Ankyloglossia and velopharyngeal dysfunction need to have a surgical intervention for the correction of speech.⁸ Frenectomy, Frenotomy and frenuloplasty are the three main surgical options available which can be performed using a conventional scalpel or by laser either diode, CO₂ or NdYAG. The results in terms of healing are the same.⁵ There are limited articles advocating the use of frenuloplasty for correction of speech defects.⁹ Presurgical assessment of the patient in terms of involving allied health professionals for feedback and postsurgical assessment and evaluation by incorporating myofunctional exercises is an important criteria for a positive treatment outcome.⁴ Success in treating cases especially with speech defects is a challenge as patients normally get habituated because of the disorder, also psychological boosting is important to get the patient out of a huddled environment.

CONCLUSION

Early intervention is crucial for the treatment of patients with speech defects. Treatment does not involve just surgical correction but should involve a combined approach involving speech pathologist, dental surgeon and psychologist.

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