



**Full Length Research Article**

**SPEECH CORRECTION BY CORRECTING ANKYLOGLOSSIA OR TONGUE TIE- CASE REPORT**

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**ABSTRACT**

Ankyloglossia, or tongue tie, refers to an abnormally short lingual frenum. It is recognized but poorly defined condition and has been reported to cause feeding difficulties, dysarthria, dyspnea and social or mechanical problems. It varies in degree of severity from mild causes; characterized by mucous membrane bands to complete ankyloglossia where by the tongue is tethered to the floor of mouth. Tongue tie can be treated by various methods such as frenectomy and frenotomy. Here, we report a case of tongue tie which was successfully treated by surgical excision.

**INTRODUCTION**

Etymologically, "Ankyloglossia" originates from the Greek Words "Ankilos: (curved) and "glossia" tongue (Suter and Bornstein, 2009). The English synonym is "tongue tie". The same term is used for very different clinical situations when the tongue is fused to the floor of the mouth, also if the lingual frenum is only short and thick, with slight impairment of tongue mobility. The first use of term ankyloglossia in the medical literature dates back to the 1960, when Wallace (Wallace, 1963) 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, after containing scar tissue. Ankyloglossia, or tongue tie, can be observed in neonate's children, or adults. Many affected children or adults do not complain about their anatomic particularity, although anatomic or functional problems can be associated with tongue tie in different stages of life. In the present case report the patient's frenum was excised to improve the mobility of his tongue and improve his speech.

**CASE REPORT**

A 31 year old male reported to the department with the chief complaint of difficulty in speech and difficulty in speech and difficulty in raising the tongue (Fig. 1). The patient wanted a correction of his speech and also wanted free movement of his tongue.

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A thorough intra oral examination was performed and all the possible etiological factors that might lead to difficulty in speaking were assessed.

The patient was diagnosed as severe (class 3) ankyloglossia according to the classification given by Kotlow" (Fig. 2.). The surgical excision of his lingual frenum area was planned.

**Treatment**

**Surgical techniques for the therapy of tongue-ties can be classified in to three procedures**

- Frenotomy, which is a simple cutting of the frenum.
- Frenectomy, which is defined as complete excision, i.e. removal of the whole fermium.
- Frenuloplasty, which involves various methods to release the tongue-tie and correct the anatomic situation.

**In the present case, frenectomy was planned which was performed in the following manner**

- A topical anaesthetic was applied to the underside of the tongue.
- A local anesthetic was infiltrated into the fermium area.
- After the anesthesia was completed, a hemostat was used to clamp the frenum.
- A number surgical blades was used to excise the frenum (Fig. 3)

**Classification**

Several classifications have been proposed, but none have been universally accepted.

Investigators	Type of Study	Nos.	Method of Assessment	Classification
Horton et al <sup>3</sup> , 1969	Expert opinion and case series	102	Inspection	Mild: Mucous Memberamo band Moderate: frenum& the genioglossus M are markedly fibroses. Complete: tongue fused to floor of mouth.
Koflow, 1994 <sup>4</sup>	Case series	322	Measure length of the free tongue	Normal: >16 mm Mild class I: 12-16 mm Moderate class 2: 8 to 11 mm Severe class 3: 3 to 7 mm Complete class 4: < 3 mm
Garcia pola et al, <sup>5</sup> 2002	Case series	N1-962 (group A) N2-730 (group B)	Group A: measure distance b/w the cupids of an upper canine tooth and a lower homolateralcanive tooth in maximum opening and when the tip of the tongue is touching the palatial papilla Group B: measured distance between the incisal margin of the upper central case lower homolateras incisor in maximum &npal	LI= Lingual mobility 51% to 100% LII= lingual mobility 31% to 50% III= lingual mobility <30%
Ruffoli et al, 2005 <sup>6</sup>	Case service	200	Measurements in maimed possible open, when the tip of the tongues is touching the palates papilla	Method A Normal = 2cm Mild: 1.6 to 1.9 cm Modulate: 0.8 to 1.5 cm Severe: 0.7 cm Method B Normal: 2.3 CM Mild: 1.7 to 2.2 cm Modulate: 0.4 to 1.6 cm Severe: 0.3 cm

- The area was sutured with 3-0 silk sutures. (Fig.4)
- The patient was discharged with post-operation instructions and was recalled after one week for suture removal.
- After one week the healing was uneventful (Fig.5).



**Fig 1. Pre operative view**



**Fig. 2. Severe (class 3) ankyloglossia**



**Fig. 3. View of excised frenum**



**Fig. 4. Suturing done**

At one week post operatively there was a marked improvement in the speech of the patient and patient could also freely move and protrude his tongue and touch his hard palate (Fig. 6).



Fig. 5. Post operative view after suture removal



Fig. 6. Protrusion of tongue

At suture removal a reexamination of the patients oral cavity was conducted and the length of the free tongue was re-measured and was found to be <16 mm (normal) (Fig. 7). Patient was further recalled at 1 month and 3 months. Postoperatively and re-examination was conducted with consistent results. The patient was satisfied with the results. The patient was also advised to visit a speech therapist for further improvement in his speech.

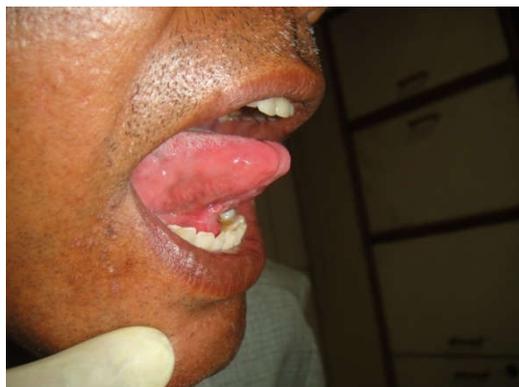


Fig. 7. Length of free tongue <16mm (normal)

## DISCUSSION

Opinions range widely regarding the significance of ankyloglossia; some investigators believe that the anomaly is rarely symptomatic (McEnery *et al.*, 1941; Paradise *et al.*, 1990) while others believe that it may lead to various problems, including infant feeding difficulties, speech disorders and various mechanical and social issues related to inability of the tongue to protrude sufficiently (Horton, 1969; Fletcher *et al.*, 1968; Wright, 1995). Although the appropriate

management of Ankyloglossia has been much debated, there is currently a paucity of objective information regarding its incidence, natural history and need for and timing of treatment.

Limitations of movement are the most obvious clinical symptoms of ankyloglossia (Messner *et al.*, 2003; Lalakea *et al.*, 2004). A prospective study (Lalakea *et al.*, 2004) demonstrated that 8 of 14 adults noted one or more mechanical limitations, such as cuts from teeth in the frenulum area or discomfort beneath the tongue and difficulties with licking the lips, eating an ice cream cone, keeping the teeth clean and doing tongue tricks only one prospective controlled trial evaluated the mobility of the tongue with ankyloglossia based on objective findings. Tongue protrusion and tongue elevation were measured in adolescent or adults with ankyloglossia and control persons. Speech problems can occur when there is limited mobility of the tongue due to ankyloglossia. The difficulties in articulation are evident for consonants and sounds like “s,z,t,d,i, zh, ch, th, dg”.

## Conclusion

There is wide range of opinions regarding the diagnosis and treatment of ankyloglossia. The above mentioned case was treated with frenectomy procedure. The patient underwent functional reeducation and reported back with considerable improvement in his speech and tongue mobility.

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