

## Untying The Knot, Tongue Tie in A Young Adult: A Case Report

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### Abstract

Tongue tie or “ankyloglossia” commonly called as “jeebhkadhaga” in northern India is a rare anomaly of tongue where lingual frenum may be short congenitally or attached more towards the tip of the tongue and high on lingual surface of mandible closer towards the central incisors edge. Tongue tie causes problems in phonetics commonly and may cause restriction in movement of tongue.

**Key words:** Tongue tie, ankyloglossia, high frenum, frenectomy

### INTRODUCTION

“Ankyloglossia” originates from the Greek words “agkilos” (curved) and “glossa” (tongue)<sup>1</sup>. The terms “tongue tie” (TT) and “ankyloglossia” are used synonymously to represent a condition where movement of the tongue is assessed as being limited. Ankyloglossia, is a congenital disorder with low lingual frenulum, more towards the tip of the tongue and high on lingual surface of the mandible, which limits movement of the tongue, and causes speaking and swallowing difficulties<sup>2</sup>. Wallace defined tongue-tie as a condition in which the tip of the tongue does not protrude beyond the lower incisor teeth due to a short frenulum linguae.

Ankyloglossia can affect speech with difficulty in pronouncing some alphabets, mastication, breast feeding in infants, and the oral hygiene<sup>3,4</sup>. The short frenum can cause diastema and gingival recession in the lower anterior teeth.

Kotlow<sup>5</sup> classified the severity of ankyloglossia based on the length of the “free tongue.” The free tongue is defined as the length of the tongue from the insertion distance of the lingual frenulum to the tip of the tongue.

Table. 1

| Kotlow's classification <sup>5</sup> |                                |
|--------------------------------------|--------------------------------|
| Category                             | Length of the free tongue (mm) |
| Normal                               | >16                            |
| Class I:mild ankyloglossia           | 12–16                          |
| Class II:moderate ankyloglossia      | 8–11                           |
| Class III:severe ankyloglossia       | 4–7                            |
| Class IV:complete ankyloglossia      | <4                             |

The incidence of tongue tie varies from 0.2%

to 5%. Studies have shown a significant predilection for male child. This may also occur with increased frequency in various syndromes including Smith-LemliOpitz syndrome, Orofacial digital syndrome, Beck with Weidman syndrome, Simpson-Golabi-Behmel syndrome and X linked cleft palate<sup>6</sup>.

### CASE REPORT

A young adult, male of age 17 years reported to Career Post Graduate Institute of Dental Sciences and Hospital, Lucknow, India, with chief complain of difficulty in pronunciation and phonetics. On examination it was found that the patient had a short and thick lingual frenum and attached high on lingual surface of mandible close to cingulum of lower central incisors. **Figure 1(a)**. Reduced tongue movements were observed when subject was asked to protrude the tongue. The ankyloglossia was classified and Class II ankyloglossia using Kotlow's assessment criteria. No history of such abnormality was present in his family members. No other facial abnormality was observed. Surgical frenectomy of the lingual frenum was planned for our case.

### PROCEDURE

Surgical lingual frenectomy was undertaken under local anesthesia with 2% lignocaine and 1:80,000 adrenaline. The tongue was stabilized using silk sutures, and

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it was placed at the tip of the tongue. Curved hemostat was used to clamp the frenum at the under surface of the tongue **Figure 1(b)**. Incision was placed below the hemostat to release the complete frenum, **Figure 2(a)**. As the incision was made the floor of the mouth relaxed, with a funnel shaped wound left behind. The wound on the floor of the mouth was left to heal and wound on ventral surface of tongue was sutured with 4-0 silk sutures **Figure 2(b)**. The sutures were removed after 10 days and good initial healing was observed. The patient was asked to do tongue exercises for 4-6 weeks postoperatively, followed by the guidance of speech therapist.

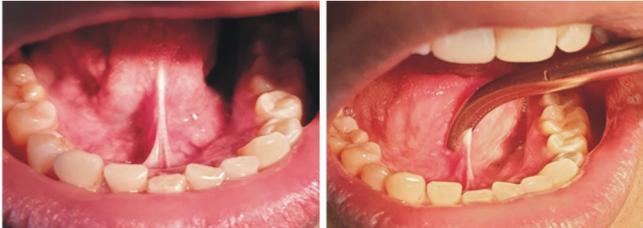


Figure 1: (a)

Figure 1: (b)

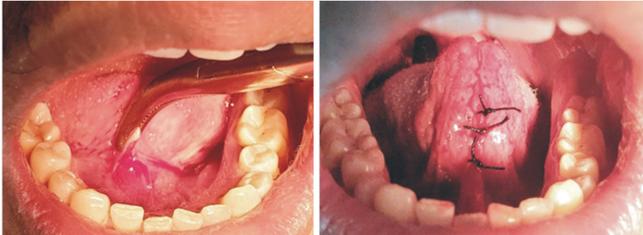


Figure 2: (a)

Figure 2: (b)



Figure 3: Post operative healing after one month

## DISCUSSION

Tongue-tie or ankyloglossia is a diagnostic challenge for dentists. It is a congenital condition with a prevalence of about 5%. Boys are affected more than girls with a ratio of 2:1. There is a positive relationship between tongue-tie and speech disorder<sup>7</sup>. Recommending treatment for short lingual attachment, dentist often delay unless there is speech or tongue movement difficulties. Surgical intervention like frenotomy, frenectomy, or frenuloplasty is seen beneficial for tongue-tie.

Limited tongue mobility causes particularly when articulating consonants such as “t”, “z”, “s”, “d”, “l”, “ch”, “j”, “zh” and “th”. Ankyloglossia is categorized into four classes according to the Kotlow's classification, which classifies based on the length of the “free tongue”<sup>1</sup>. The free tongue is the

distance from the tip of the tongue to insertion of the lingual frenulum. The normal length of the free tongue is 16mm. Class I is categorized as mild ankyloglossia with a free tongue length of 12–16mm; class II is categorized as moderate ankyloglossia with a free tongue length of 8–11mm; class III is categorized as severe ankyloglossia with a free tongue length of 4–7mm; and class IV is categorized as complete ankyloglossia with a free tongue length  $\leq 4$  mm.<sup>[9]</sup> These patients have difficulties with swallowing and speech, particularly those with Kotlow's class III and class IV ankyloglossia<sup>8,9</sup>.

Surgical techniques for the therapy of tongue-ties can be classified into three procedures. Frenotomy is a simple cutting of the frenulum (of neonates). Frenectomy is defined as complete excision, i.e., removal of the whole frenulum (at or after 6 months of age). Frenuloplasty involves various methods to release the tongue-tie and correct the anatomic situation<sup>6</sup>.

Several treatment options are available for ankyloglossia, including observation, speech therapy, frenotomy, frenectomy, z-plasty, and laser frenectomy. Surgical interventions are safe at any age<sup>1</sup>.

Surgery in ankyloglossia cases should be performed as early as possible, so that speech, swallowing, jaw development, and other functional disorders will not occur.

## CONCLUSION

If severe/complete ankyloglossia is present in adults there is usually an obvious limitation of the tongue protrusion, elevation and speech problems. Optimal management of tongue tie includes timely and appropriate surgical intervention followed by speech therapy if required, ultimately delivering pleasing results, in a shorter time than expected.

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