

Ankyloglossia: A Case Report

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Abstract

Ankyloglossia, or tongue-tie as it is more commonly known, results from an abnormally short lingual frenulum. This congenital anomaly is relatively common affecting upto 5% of newborns. Although many believe ankyloglossia is rarely of medical significance, other report breastfeeding difficulties and advocate neonatal freneluctomy.

INTRODUCTION

Etymologically, “ankyloglossia” originates from the Greek words “agkilos” (curved) and “glossa” (tongue).² It occurs due to incomplete degeneration of cells while the body of tongue is freed. In it, tip of tongue remains tied to floor of mouth. It is a condition in which the lingual frenulum is either too short or anteriorly placed limiting the mobility of the tongue. Reports of partial ankyloglossia affecting several generations, suggest a possible genetic basis for the minor variation in the attachment of the genioglossus muscle. It may be traumatic or congenital.³ The first use of the term ankyloglossia in the medical literature dates back to the 1960s, when 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.”

CASE REPORT

A 14-year-old male patient came to the department of oral medicine and radiology with a chief complaint of difficulty in speech. Intraoral examination revealed the presence of tongue-tie. Anteriorly it was continuous with the mandibular lingual frenum along the floor of the mouth and between mandibular central incisors. The child was unable to protrude his tongue beyond mandibular anterior teeth. There was crowding of mandibular anterior teeth. The patient suffered from poor oral hygiene. Provisionally he was diagnosed with Kotlow’s class III severe ankyloglossia (fig 1). He was advised for lingual frenectomy and referred to the department of oral surgery.

DISCUSSION

Ankyloglossia is said to exist when the inferior frenulum attaches to the bottom of the tongue and subsequently restricts free movement of the tongue. It occurs in approximately 1.7% of all neonates without preference for either gender and is reported to be transitory. With growth, the frenulum lengthens so normal tongue function is established.⁴ It is of two types: complete (fusion of tongue

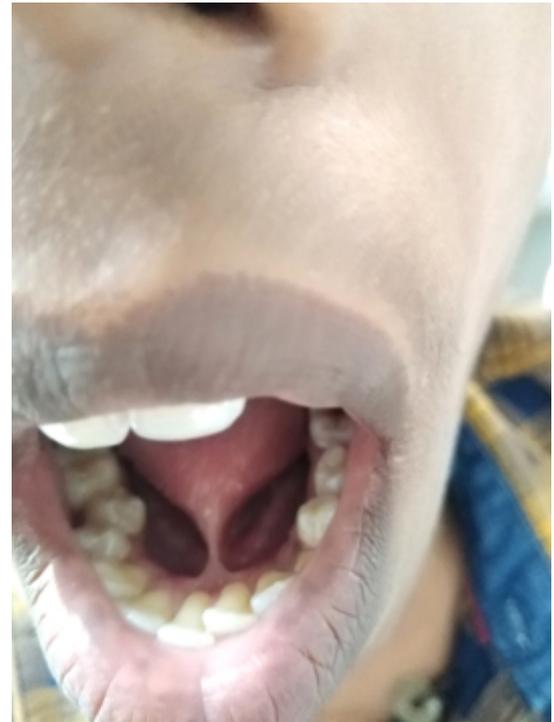


fig 1(class III Ankyloglossia)

and the floor of mouth) and partial (short lingual frenum). In many individuals, ankyloglossia is asymptomatic. However, it may limit the movement of the tongue and in some cases, recurrent tongue biting is also reported. In extreme cases of ankyloglossia, nursing and feeding problems can occur. Poor sucking and inability to chew some food also occurs. It was felt that tongue-tie was associated with speech abnormalities, especially lisping and inability to pronounce certain sounds and words viz t, d, n, l, as, ta, te, time, etc. Due to high frenum attachment some patient may face periodontal problems. V-shaped notch and midline mandibular diastema are also common features. Ankyloglossia was also found associated in cases with syndromes such as Ankyloglossum superius syndrome, Rainbow syndrome, Fraser’s syndrome and orofacial digital syndrome.³

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 16mm. The ankyloglossia can be classified into 4 classes based on Kotlow’s assessment as follows;

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

Class III and Class IV tongue-tie category should be given special consideration because they severely restrict the tongue's movement. A normal range of motion of the tongue is indicated by the following criteria: The tip of the tongue should be able to protrude outside the mouth; without clefting, the tip of the tongue should be able to sweep the upper and lower lips easily; without straining, when the tongue is retracted, it should not blanch the tissues lingual to the anterior teeth; and the lingual frenum should not create a diastema between the mandibular central incisors. Ankyloglossia limits the tongue's range of motion. Because of limited mobility of the tongue in patients with ankyloglossia, the tongue is in a low position and causes forward and downward pressure favoring the development of mandibular prognathism with maxillary hypo development. After completion of growth and also during infancy, if the individuals have a history of speech, feeding, or mechanical/social difficulties surgical intervention should be carried out. Therefore, surgery should be considered at any age depending on the patient's history of speech, feeding, or mechanical/social difficulties. Surgical techniques for the therapy of tongue-ties can be classified into three procedures. Frenotomy is a simple cutting of the frenulum. Frenectomy is defined as complete excision, i.e., removal of the whole frenulum. Frenuloplasty involves various methods to release the tongue-tie and correct the anatomic situation. There is no sufficient evidence in the literature concerning surgical treatment options for ankyloglossia to favor any one of the three main techniques.²

CONCLUSION

Ankyloglossia is an abnormal congenital oral anomaly that may decrease mobility of the tongue tip and is caused by an unusually short, thick lingual frenulum. If severe/ com-

plete ankyloglossia is present on an adult, there is usually an obvious limitation of the tongue protrusion, elevation and speech problems which can be improved following surgical intervention.

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