

## Ankyloglossia: A short review and case report

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### Abstract

Ankyloglossia is an abnormally thick and fibrosed lingual frenulum. In this, lingual frenulum becomes short and tight. Ankyloglossia is also known as tongue-tie. Ankyloglossia is a congenital anomaly. It affects tongue movements. Ankyloglossia is also known as ankyloglossia inferior.

This article presents review about an anomaly of ankyloglossia and its management briefly as well as it reports one case of ankyloglossia which was successfully managed by us.

**Keywords:** Ankyloglossia, Frenectomy, Lingual frenulum, Lingual frenum, Tongue- tie.

### Introduction

Tongue is a vital structure in the oral cavity and plays a role in swallowing of food.<sup>7</sup> The term ankyloglossia originates from two Greek words, agkilos which means curved and glossa which means tongue. Ankyloglossia is also known as tongue-tie or ankyloglossia inferior. This is the congenital anomaly. In 1960s, Wallace defined tongue-tie as a condition in which the tip of the tongue can not be protruded beyond the lower incisor teeth because of a short frenulum linguae, often containing scar tissue.<sup>8</sup>

A small fold of mucous membrane which extends from the floor of the mouth to the midline of inferior surface of the tongue is known as lingual frenulum. Lingual frenulum is made up of mucosa and dense fibrous connective tissue and sometimes it consists of superior fibers of the genioglossus muscle.<sup>7</sup> Ankyloglossia is the presence of an abnormally thick, fibrosed, short & tight lingual frenulum.<sup>6,13</sup> Ankyloglossia can be easily cured and may be treated in the dental office.<sup>6</sup>

The present article discusses about the congenital oral anomaly of Ankyloglossia. This article describes diagnosis, clinical examination and surgical management of ankyloglossia. It also reports one case of tongue-tie in 24 years old male patient which was treated under local anaesthesia. This case was successfully managed in our institute.

### Case Report

A 24 year old male patient visited department of Oral and Maxillofacial Surgery of our institute with the chief complaint of difficulty in speech since childhood. On clinical examination, mild to moderate type of ankyloglossia was seen and frenectomy was planned under local anaesthesia. Figure no. 1 shows patient's ankyloglossia.



**Fig. 1:** Preoperative photograph of ankyloglossia.

Topical anaesthetic was applied at the site to be operated and local infiltration was administered [2 % lignocaine with 1: 80,000 adrenaline]. The tongue was retracted superiorly. It was stabilized superiorly by placing silk sutures at the tip of the tongue as shown in figure no.2. Frenum was clamped with hemostat. Frenum was released by blunt dissection. Surgical closure was performed with 3-0 mersilk as shown in figure no. 3. On 7<sup>th</sup> postoperative day, healing was observed and it was found satisfactory [Figure no. 3]. Suture removal was done and patient was recalled after one month. After one month, normal tongue protrusion was observed and patient and his relatives were satisfied with the result of frenectomy.



**Fig. 2:** Retraction and stabilization of tongue superiorly.



**Fig. 3:** Postoperative suturing [3-0 mersilk]



**Fig. 4:** 7<sup>th</sup> postoperative day.



**Fig. 5:** After suture removal.[on 7<sup>th</sup> postoperative day]

### Discussion

Ankyloglossia is seen in 0.1 % to 10.7 % of human population. It can be observed in any age group but about 2.5 times more prevalent in males. Most often ankyloglossia is seen in patients who don't suffer from any other congenital anomalies but sometimes it is associated with some syndromes. Ankyloglossia can be seen in syndromes like Beckwith – Wiedemann syndrome, Simosa syndrome, Ehler Danlos syndrome, Opitz syndrome, Van der Woude syndrome and Kindler syndrome.<sup>7,13</sup>

The prevalence of ankyloglossia is higher in neonates as compared to children or adults. Hence, it can be assumed that milder forms of ankyloglossia may resolve with growth. Short and fibrosed lingual frenulum which causes hindrance in speech due to limited tongue movement leads to ankyloglossia or tongue-tie. In Ankyloglossia, difficulty in speech is noticed due to restricted movement of tongue.

Consonants and sounds like “ch, s, dg, z, th, t, zh, d, j, l” can not be pronounced properly due to tongue-tie. Ankyloglossia can cause gingival recession. This occurs due to the localization of the lingual frenum insertion in the area of the papilla.<sup>8</sup>

Free – tongue is the terminology used for the length of tongue from insertion of the lingual frenum in the tongue base to the tongue tip. Normally, the free tongue is greater than 16 mm.

Kotlow's assessment classified ankyloglossia as given below<sup>8</sup>:

1. Class I : Mild ankyloglossia: 12 mm to 16 mm free tongue present
2. Class II : Moderate ankyloglossia: 8 mm to 11 mm free tongue present
3. Class III : Severe ankyloglossia: 3 mm to 7 mm free tongue present
4. Class IV : Complete ankyloglossia: Less than 3 mm<sup>2</sup> free tongue present

There are various surgical methods available for treating ankyloglossia like frenotomy, frenectomy and frenuloplasty. Frenectomy is the most commonly practiced technique and it can be done with surgical blade, lasers or bipolar diathermy.<sup>7</sup> Surgical cutting of the frenulum is known as Frenotomy. Complete excision of the frenulum is known as the Frenectomy. In the Frenuloplasty procedure, tongue-tie is released and its anatomic location is corrected.<sup>8</sup> Frenotomy or frenectomy can be performed with the help of hemostats, laser or groove director. The grooved director acts as a guide for marking the incision at the upper aspect of the frenulum. The laser technology has some advantages like less operative time, hemostasis, less postoperative complications. LASER also enhances access and visualization.<sup>13</sup>

### Conclusion

Early and appropriate surgical intervention is very much important for the management of ankyloglossia. If required and indicated, this may be followed by speech therapy.<sup>6</sup> LASER is an effective and safe tool for the management of ankyloglossia.<sup>7,13</sup>

**Conflict of Interest:** None.

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