

Ankyloglossia: A Series of 3 Case Reports with its Implications

Sayam A Patil^{1*} Javed Khan² Rutika S Patil³ Athulya Dinesh⁴ Rosaiah Kanaparth⁵

¹Assistant Professor, Department of Orthodontics and Dentofacial Orthopedics, SD Dental College and Hospital, Parbhani, Maharashtra, India.

²Assistant Professor, Department of Orthodontics and Dentofacial Orthopedics, SD Dental College and Hospital, Parbhani, Maharashtra, India.

³Cosmetic Dental Surgeon, Profile Dental Clinic and Orthodontic Centre, Gokak, Karnataka, India.

⁴Cosmetic Dental Surgeon, Royal Advanced Orthodontic and Implant Centre, Navi Mumbai, India.

⁵Assistant Professor, Department of Periodontics, College of Dentistry, Jazan, Saudi Arabia.

ABSTRACT

Background: One of the important oral structures is the tongue which affects nutrition, speech, periodontal tissue, position of teeth, nursing, certain social activities and swallowing. Tongue tie or ankyloglossia limits the movements of the tongue and thus decreases the ability of tongue to perform its functions. Ankyloglossia, or tongue tie is a result of short, lingual frenulum causing tethering of tongue tip. Most of the cases are asymptomatic and few may resolve in time and many will develop articulation problems and poor tongue mobility. In this article we report 3 cases with tongue-tie and describe various criteria to define and classify ankyloglossia and type of malocclusion associated with it.

Keywords: Ankyloglossia, Lingual frenum, Tongue tie.

INTRODUCTION

Ankyloglossia, which is routinely called as tongue-tie, is a relatively uncommon congenital abnormality that has an abnormally short lingual frenulum that can result in difficulty with speech articulation, breast-feeding and other mechanical tasks like kissing and licking the lips.¹ The term frenulum, latin for small bridle, and frenum, latin for bridle, have been used synonymously for years, the Nominal Anatomica derived at the Sixth and Seventh International Congresses of Anatomists, Paris, 1955, and New York, 1960, chose to use the term frenulum. Accordingly, the vertical mucous membrane fold under the midline of the tongue is properly called frenulum linguae.⁶

The word free-tongue is described as “the dimensions of tongue from the attachment of the lingual frenulum to the tip of the tongue.” Normal range of clinically acceptable free tongue is usually more than 16 mm.¹

The tongue tie or ankyloglossia can be classified into 4 classes as follows¹;

Class I: Consists of Mild ankyloglossia: 12 to 16 mm,
Class II: Consists of Moderate ankyloglossia: 8 to 11 mm,
Class III: Consists of Severe ankyloglossia: 3 to 7 mm,
Class IV: Consists of Complete ankyloglossia: less than 3 mm.

The criteria for the indication of the normal range of movements of the tongue:

- The tongue tip should be able to protrude without clefting outside the mouth.
- The tongue tip should be able to sweep without straining the upper and lower lips easily.
- On retrusion of the tongue blanching of the tissue lingual to the anterior teeth should not be produced.

Received: Jan. 11, 2016; Accepted: Mar. 4, 2016

*Correspondence Dr. Sayam A Patil.

Department of Orthodontics and Dentofacial Orthopedics, SD Dental College and Hospital, Parbhani, Maharashtra, India.

Email: Not Disclosed

- The diastema between the mandibular central incisors should not be created by lingual frenulum.
- The attaching to the mother's nipple while nursing should not be prevented by lingual frenulum and children must not have speech difficulties.¹

Class III and IV ankyloglossia category need to be revised as they severely decrease the tongue motions. Child with Class II and Class I ankyloglossia are difficult to judge and examine. Most of the children with class I and class II tongue tie have usual speech patterns and can fulfill many of the criteria listed above. Abnormalities in tongue function during swallowing due to tongue tie may vary from difficulty in playing wind instruments, difficulty in drinking or eating, difficulty in licking ice cream cones and during the adult years, impairment of certain social activities and instability of dentures.

The subject of the tongue tie has been controversial since many years. Widely different views are there of the practitioners of the various different specialties regarding the significance and management of the tongue-tie.

In most of the children the tongue tie is asymptomatic and it may resolve spontaneously. The affected child can learn how to compensate adequately for the restricted tongue mobility. Some of the children may benefit from the surgical intervention of frenuloplasty or frenotomy. Parents of the children must be educated for the various possible long-term effects of the ankyloglossia. So that parents can make an informed choice for the possible therapy.^{1,2}

CASE REPORT 1

A 14 year old male child comes to us with complaint of difficulty to protrude the tongue fully and inability in speech of certain words. On local examination revealed presence of mild (class I) ankyloglossia (Fig-1) and the subject was able to protrude his tongue upto the lower incisors and could not make contact to his palate effortlessly. The malocclusion associated with it was narrow dental arches and crowding in the lower anterior as a result of perturbed tongue movements. (Fig-1)



Fig 1: Clinical photographs showing class I mild Ankyloglossia.

CASE REPORT 2

A 16 year old adult male patient presented to us with history of irregular teeth, inability to speak certain words. On clinical examination he revealed presence of moderate ankyloglossia (class II) (Fig-2) and the subject was unable to protrude his tongue beyond lower incisors without clefting and could not make contact to his palate effortlessly and was unable to sweep his upper and lower lips without straining.

The malocclusion associated with this case was severe lower anterior crowding and narrow dental arches. (Fig-2)



Fig 2: Clinical photographs showing Class II Ankyloglossia.

CASE REPORT 3

A 17 year old adult female patient presented to us with history of irregular teeth, difficulty to protrude the tongue fully and inability in speech of certain words. On clinical examination she revealed presence of severe ankyloglossia (class III) (Fig-3) and the subject was unable to protrude her tongue beyond lower incisors without clefting and could not make contact to his palate effortlessly and was unable to sweep her upper and lower lips

without straining. The malocclusion associated with this case was severe lower anterior crowding and narrow dental arches. (Fig-3)



Fig 3: Clinical photographs showing Class III Ankyloglossia.

DISCUSSION

Ankyloglossia decreases tongue movements impairing tongue's ability to perform functions like swallowing, speech, certain social activities and nursing.^{1,2,3} A higher lingual frenulum or tongue tie decreases the tongue's range of movements. One of the other important factors in deciding the effects of the tongue tie is the flexibility of the floor of the mouth. It is also seen that in case of the mild and moderate tongue tie, the natural growth of the free tongue can occur as the child grows.

The management of the tongue tie is usually done under local anesthesia. Deep sedation or the general anesthesia is usually necessary only in case of extensive revision procedure. In this, the frenulum is revised using a sharp curved scissor and the site is sutured with the help of 4-0 gut suture.^{1,4,5}

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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