ISSN: 0975-833X

Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 9, Issue, 08, pp.56568-56570, August, 2017

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

CASE STUDY

MANAGEMENT OF ANKYLOGLOSSIA IN ADULTS

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ARTICLE INFO

Article History:
Received 10th May, 2017
Received in revised form
18th June, 2017
Accepted 23rd July, 2017
Published online 31st August, 2017

Key words:

Ankyloglossia, Frenectomy, Adult.

ABSTRACT

Ankyloglossia is a congenital condition characterized by an abnormally short, thickened, or tight lingual frenulum that restricts mobility of the tongue. The prevalence of ankyloglossia reported in the literature varies from 0.1% to 10.7%. Due to restricted tongue movements patients may exhibit difficulty in speech, neonates have difficulty in breastfeeding, malocclusion a gingival recession are also reported. Surgical intervention is choice of treatment. This article presents one such case of ankyloglossia in adult and its management.

Citation: Dr. Shwetambari Navale, Dr. Daisy Happy, Dr. Diganta Thube, Dr. Pradnya Mali and Dr. Archana Gupta, 2017. "Management of ankyloglossia in adults", *International Journal of Current Research*, 9, (08), 56568-56570.

INTRODUCTION

Etymologically, ''ankyloglossia'' originates from the Greek words agkilos (curved) and glossa (tongue). The English synonym is tongue-tie. The first use of the term ankyloglossia in the medical literature dates back to the 1960s, when Wallace defined tonguetie 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.'' (Suter and Bornstein, 2009) Ankyloglossia, or tongue-tie, can be seen in infants, children or adults. The prevalence of ankyloglossia reported in the literature varies from 0.1% to 10.7%. Ingeneral, males seem to be more affected than females, although in some studies a similar ratio or an inverse relationship was observed. [1]The ankyloglossia can be classified into four classes based on Kotlow's assessment as follows: (Kotlow, 1999)

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

Clinically acceptable normal range of free tongue is greater than 16 mm. The choice of treatment for ankyloglossia is frenectomy or frenotomy. Frenectomy is complete removal of frenum which can be performed by conventional technique using scalpel and periodontal knives or soft tissue LASER. The purpose of present article is to describe a case report of ankyloglossia in adult treated with scalpel technique with 1 year follow up.

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Case report

A 22 year old female patient reported to the Department of Periodontology, Sinhgad Dental College and Hospital, Pune, with a complaint of difficulty in speech and difficulty in complete protrusion of the tongue. Her extra-oral examination showed no abnormality. On intraoral clinical examination limited protrusion of the tongue was seen suggestive of ankyloglossia. Then lingual frenum was measured from its insertion into base of the tongue to the tip of the tongue using Williams graduated periodontal probe and was found to be 9mm. Hence this ankyloglossia was classified into class II according to Kotlow. There was no lingual recession seen with mandibular incisors. The patient was informed about the treatment procedure and lingual frenectomy was planned for the patient. Informed consent was taken from her. The procedure was carried out under local anaesthesia with 2% lignocaine and l: 2,00,000 adrenaline. A hemostat was inserted at the depth of the frenal attachment and clamped into position followed by giving two incisions at the superior and inferior aspect of the hemostat using No.15 blade. A diamond shaped wound was created and the intervening frenum was removed. With the help of hemostat muscle fibers were released. Tension free closure of the wound edges were achieved and approximated with 4-0 black silk sutures. Patient was prescribed antibiotics and analgesics; Cap Amoxycillin 500mgand Tab Paracetamol 325mg + Ibuprofen 400mg three times a day for 3days. Patient was also asked to rinse with 0.2% chlorhexidine mouthwash twice a day for 14 days. Sutures were removed after 1 week with satisfactory healing.

Patient was kept on regular recall visits. After a follow up of 1 year patient showed improved tongue protrusion.

Figure 1. Preoperative Image

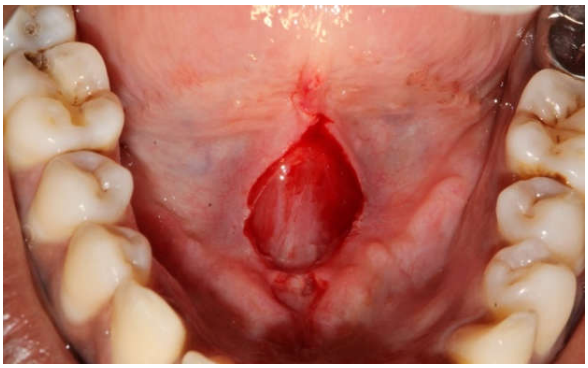

Figure 2. Scalpel incision

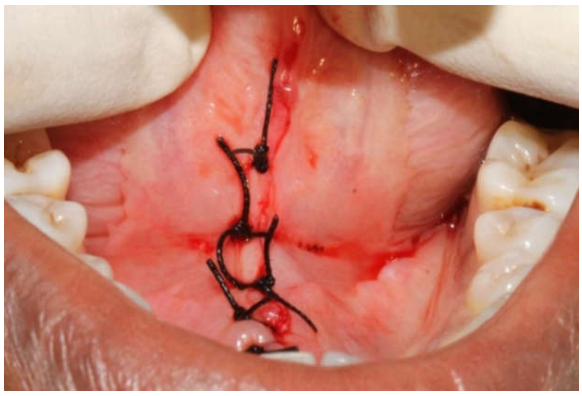

Figure 3. Sutured with silk suture

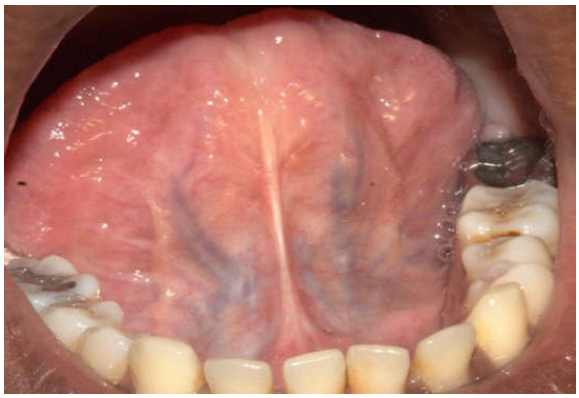

Figure 4. 1 year post-operative

DISCUSSION

Ankyloglossia is a congenital condition characterized by an abnormally short, thickened, or tight lingual frenulum that restricts mobility of the tongue. It is typically an isolated anomaly, but can be associated with other craniofacial abnormalities. (Francis *et al*., 2015) In ankyloglossia, due to restricted tongue movements, patients may exhibit speech difficulties in pronunciation of consonants like t, d, n, and l, and it is difficult to roll a "r." Ankyloglossia has also been associated with problems with breast feeding among neonates, malocclusion, and gingival recession. (Suresh *et al*., 2012) For proper management of ankyloglossia, clinical assessment guidelines are to be followed adequately. We have considered Kotlows guidelines for classification. Hazelbakers assessment tool is used to determine functional movements and appearance of the tongue. Various treatment modalities reported in literature include frenotomy, frenectomy with scalpel or LASER. This article demonstrates frenectomy with scalpel and hemostat which is a widely used conventional technique. Though, Laser treatment provides certain advantages like bloodless surgical field and less postoperative pain. (Pogrel, 1989; Talebzadeh *et al*., 1994; Pogrel *et al*., 1990) According to Patel R M, as compared to lasers, healing was found to be better in cases treated using conventional scalpel after 7th day and 1 month post-operatively. (Patel *et al*., 2015) According to a review by Suter and Bornstein (2009) one randomized prospective study showed the advantages of the four-flap Z-frenuloplasty over the horizontal-to-vertical (i.e. transverse–vertical) frenuloplasty. With the four-flap Z-frenuloplasty, the gain in frenulum length and tongue protrusion improved more than with the horizontal-to-vertical technique, and better correction of speech articulation was observed. (Heller *et al*., 2005) Furthermore no specific surgical method can be favoured over others or suggested as the modality of choice. (Suter and Bornstein, 2009) There is not enough evidence in the literature to draw any sound conclusions about the timing of surgery for ankyloglossia. (Suter and Bornstein, 2009) The surgery for ankyloglossia should be considered at any age depending on patient's history of speech, mechanical and social difficulty. (Management of Ankyloglossia with Scalpel and Electrosurgery Method, 2012) Frenectomies have shown more predictable results with less recurrence rate. Various consequences of not treating the tongue tie include improper chewing and swallowing of food. It also a□ects children who want to participate in routine play which involve stongue movements, gestures, and speech. Dental caries could occur due to food debris not being removed by the tongue's action of sweeping the teeth and spreadingofsaliva. (Bhattad *et al*., 2013) Complications reported historically for frenotomy and frenuloplasty are few, and include infection, excessive bleeding, recurrent ankyloglossia due to scarring, one case of a new speech disorder developing postoperatively, and 'tongue swallowing' due to excessive tongue mobility have been reported. Literature indicates that these procedures are quite safely performed, with no significant complications. (Messner and Lalakea, 2000) Anna H. Messnerstated that the most common complication reported was recurrent ankyloglossia due to scarring. (Messner and Lalakea, 2000)

Conclusion

There is a wide di□erence of opinion regarding the clinical significance and management of ankyloglossia. Though it is asymptomatic, some patients may be benefited by surgical intervention leading to improved range of motion of tongue.

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