



Published by DiscoverSys

The effectiveness of frenotomy in the treatment of ankyloglossia: A case report from Adam Malik General Hospital Medan-Indonesia



CrossMark

Farhat,^{1*} Rizalina Arwinati Asnir,¹ Ashri Yudhistira,¹ Elvita Rahmi Daulay,² Adrian Kadaf Lubis¹

ABSTRACT

Background: Ankyloglossia is a congenital oral anomaly, which the lingual frenulum unusually short, restricting the movement of the tongue. Also, no relevant report has been published in Indonesia. This study was conducted to report an ankyloglossia case in Universitas Sumatera Utara/Adam Malik General Hospital Medan-Indonesia, and the frenotomy procedure that was taken to handle the cases.

Case: A 6 years old girl was unable to speak, was admitted to Adam Malik General Hospital. According to the alloanamnesis from her parents, she has been suffering from slurred speech for 5 years. The

physical examination found her frenulum was attached very close to the tip of the tongue, and such condition was able to affect the ability to produce speech sounds which require raising or extending the tip of the tongue, the patient then diagnosed with ankyloglossia or tongue-tie. We did frenotomy to make her tongue free and able to touch her hard palate, post operation the patient learns speech therapy.

Results and discussion: The 6 years old girl underwent functional re-education and reported back with considerable improvement in her speech.

Keywords: ankyloglossia, frenotomy, congenital, speech therapy

Cite This Article: Farhat, Asnir, R.A., Yudhistira, A., Daulay, E.R., Lubis, A.K. 2018. The effectiveness of frenotomy in the treatment of ankyloglossia: A case report from Adam Malik General Hospital Medan-Indonesia. *Bali Medical Journal* 7(1): 192-194. DOI:10.15562/bmj.v7i1.779

¹Department of Otorhinolaryngology Head and Neck Surgery, Faculty of Medicine, Universitas Sumatera Utara, 20155, Indonesia

²Department of Radiology, Faculty of Medicine, Universitas Sumatera Utara, 20155, Indonesia

INTRODUCTION

Ankyloglossia or tongue-tie is a congenital oral anomaly, which the tongue is attached to the floor of the mouth by a membrane called the *lingual frenum* or *lingual frenulum*. A small percentage of children are born with a condition called ankyloglossia, or tongue-tie, in which the frenulum is unusually short, restricting the movement of the tongue. It was once thought that this condition caused speech disorders, hence the use of the term “tongue-tie” referring to people who are at a loss for words.^{1,2}

Tongue-tie is relatively common in newborns; it is much rarer in children beyond 2 to 3 years of age.³ At one time doctors considered it necessary to correct ankyloglossia by clipping the frenulum. The procedure (frenotomy) is quick, simple, and can be done without anesthesia. A severe ankyloglossia can affect the child’s ability to produce speech sounds that require raising or extending the tip of the tongue, including /t/, /d/, /l/, /s/, /z/, and /th/. However, in most cases, children can learn to produce these sounds using alternate articulations. It is more common for ankyloglossia to interfere with nursing than with speech. Speech pathologists opined that ankyloglossia never causes speech problems in 37%. Most speech pathologists believe that speech therapy can overcome any language problems associated with ankyloglossia. In another small study by the same authors, results of pre and

post frenuloplasty speech assessments weren’t very convincing. Most of the children with articulation problems who underwent frenuloplasty improved postoperatively. Ankyloglossia doesn’t cause delayed speech development, but only rarely articulation problems. These generally involve sibilants and lingual sounds.^{4,5}

As a reaction to the over-use of clipping to correct ankyloglossia, many medical practitioners today may not consider any surgery is necessary. Since no surgical procedure is without risks, surgery should only be done when required. If the tongue-tie is interfering with the infant being able to attach and suck effectively, or affecting the child’s ability to pronounce certain sounds correctly, then surgery should be considered.³

Parents should be counseled about risks, benefits, and alternatives of the procedure and informed consent should be obtained. The frenulum may be transilluminated to check for translucency and lack of vasculature. The frenulum is usually a thin, translucent hypovascular membrane, where a simple frenotomy results in an almost bloodless procedure. Rarely, it may be thick and fibrous or muscular and relatively vascular. Thicker frenula are best incised by an otolaryngologist or oral surgeon under controlled conditions. The frenulum is almost devoid of sensory innervation. Infants

*Correspondence to: Farhat, Department of Otorhinolaryngology Head and Neck Surgery, Faculty of Medicine, Universitas Sumatera Utara, 20155, Indonesia
farhatmedan@gmail.com

Received: 2017-07-27

Accepted: 2017-10-23

Published: 2017-10-28

under 4 months of age can usually tolerate the frenotomy very well without any local anesthesia. Alternatively, a topical anesthetic (benzocaine gel or paste) may be applied with cotton applicators to both sides of the frenulum in the area to be incised. This, however, may have the undesirable effect of numbing the mouth, such that the baby may not be able to suck effectively after the frenotomy is completed.⁴

CASE REPORT

A 6 years old girl was admitted to Adam Malik General Hospital with main complaint of slurred speech for 5 years. According to the alloanamnesis from her parents, the child previously went to a pediatrician when she was 1 year old due to her inability to speak like other children. The pediatrician revealed no abnormality within her condition at that moment. When she was 6 years old, her parents brought her to otolaryngology outpatient clinic of Adam Malik General Hospital.

Physical examination found that her frenulum was attached very close to the tip of the tongue, and such condition was able to affect the ability to produce speech sounds that require raising or extending the tip of the tongue, including “s, z, t, d, l” and especially to roll an “r” but no feeding problems have been tracked down when she was born until now. We diagnosed the patient with ankyloglossia or tongue-tie. Since there was no abnormality found in the laboratory and radiologic examination, the patient was scheduled for frenotomy.

In the procedure, a topical xylocaine 10% spray was applied to the underside of the tongue. A sharp scissor was used in order to excise the frenulum. The operation done with minimal bleeding or other complication (figure 1-4). The patient was discharged with post-operative instructions, and she was recalled for further control after one week. The wound healing was uneventful at one week after surgery, and there was a marked improvement in her speech. The patient could also move her tongue freely and touched her hard palate. The patient was also advised to visit a speech therapist for further improvement in her speech.

RESULT AND DISCUSSION

Ankyloglossia was a congenital oral anomaly indicated by a short lingual frenulum, and the surgical indication is patients with speech or feeding disorders. Even though more incidents were found on male rather than female.⁶ In this case the incident was found on female.

The site beneath the tongue is blotted with gauze until little or no blood is seen. In the event of unexpected bleeding beyond 2 to 3 minutes, a strip of gelatin foam may be used to achieve rapid hemostasis.^{4,11} In the operation done with minimal bleeding so didn't using gelatin foam to hemostasis and no complication.

Surgical procedure intervention in 3-12 months patients didn't require anesthesia, 1 to 5 years old patients require general anesthesia, and 6-7 years old patients only need local anesthesia.^{6,7} In this case, since the patient was 6 years old and cooperative, local anesthesia was done by using xylocaine 10% spray.

A child with ankyloglossia is experiencing speech problems, a frenotomy on its own will not correct the problem. Speech therapy is necessary following the procedure to help the child learn the new tongue placement habits required to produce clear speech sounds. A frenotomy will not correct language disorders. Opinions range widely regarding the significance of ankyloglossia; some researchers believe that the anomaly is rarely symptomatic. While others believe that it may lead to various problems, including infant feeding difficulties, speech disorders, and various mechanical and social issues related to the inability of the tongue to protrude sufficiently. Although the appropriate management of ankyloglossia has been much debated, there is currently a paucity of objective information regarding its incidence, natural history and treatment period. The exact incidence of ankyloglossia is unknown.^{2,5,8,9}

In this case, the patient has been suffering from slurred speech for 5 years. Only a sharp scissor was used in order to excise the frenulum. We did frenotomy to make her tongue free and able to touch her hard palate, one week post operation the patient learns speech therapy. As some cases are postulated to resolve spontaneously with age. Limitations of movement are the most obvious clinical symptoms of ankyloglossia. A prospective study demonstrated that 8 of 14 adults noted one or more mechanical limitations, such as cuts from teeth in the frenulum area or discomfort beneath the tongue and difficulties with kissing, licking the lips, eating an ice cream cone, keeping the teeth clean and doing tongue tricks. Only one prospective controlled trial evaluated the mobility of the tongue with ankyloglossia based on objective findings. Tongue protrusion and tongue elevation were measured in adolescents or adults with ankyloglossia and control persons. In a tongue with normal function and range of movement, protrusion (the maximum extension of the tongue tip past the lower dentition) and elevation (interincisal distance by maximal mouth opening,



Figure 1 - 4

while maintaining contact of the tongue tip to the posterior surface of the upper central incisor teeth) measured >30 mm, whereas they were nearly half that length when ankyloglossia was present. Speech problems can occur when there is limited mobility of the tongue due to ankyloglossia that shown by the difficulties in articulating.^{1,3,8,10} Her frenulum was attached very close to the tip of the tongue, and such condition was able to affect the ability to produce speech sounds that require raising or extending the tip of the tongue, but no feeding problems have been tracked down when she was born until now.

CONCLUSION

There is a wide range of opinions regarding the diagnosis and treatment of ankyloglossia. This case

was congenital oral anomaly finding in a 6 years old female and treated with the frenotomy procedure with local anesthesia applying xylocain 10% spray. If we treat the ankyloglossia immediately in early years of growth and development stages, the prognosis of the speech articulating will be well develop compare with adult. The patient underwent functional re-education and reported back with considerable improvement in her speech.

REFERENCES

1. Horton E, Crawford H, Adamson E, Ashbell S, 'Tongue Tie', Virginia 1967; 8-22,
2. Messner H, Lalakea L, Aby J, Macmahon J, Bair E, Ankyloglossia, Incidence and associated feeding difficulties' American medical association, San Jose, Stamford University, 2000;136-39 .
3. Tyquin, 'Tongue-tie', Speech pathology, Australia, 2009
4. Ballard J, Chanry C, Howard R,' Guidline for Evaluation and management of neonatal ankyloglossia and its complication in the breastfeeding dyad' the academy of breastfeeding Medicine Protocol, Bureau. 2004
5. Haber R, 'Ankyloglossia and speech problem' McGill University, Montreal, 2008
6. Francis, Why? When to? How?, Department of Otolaryngology, Pediatric Otolaryngology, KU Medical Center, 2012
7. Brinkmann et al,' Ankyloglossia (tongue tie), the Department of speech therapy, speech pathology, Australia, 2004
8. Herzl, Tongue-Tie or Ankyloglossia, Goldfarb Breastfeeding Clinic, Jewish General Hospital, Montreal, 2009; 1-3
9. Dacillo, Critical Review, The Effectiveness of the frenotomy in the treatment of breastfeeding difficulties in infants with Ankyloglossia, school of communication sciences and disorders, 2006; 1-4,
10. Kotlow LA. Ankyloglossia (tongue-tie), a diagnostic and treatment. Pediatric dentistry: 2009; pp: 259-262



This work is licensed under a Creative Commons Attribution