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## Case Report

# Treatment of Ankyloglossia with Coblation Assisted Surgery

## Abstract

Ankyloglossia is a disease characterized by difficulty in breast-feeding, limitation of tongue, and speech disorders. Prevalence of the disease is %1-10 in the literature (1). Cold knife, Laser surgery, electro cautery methods are used in the surgical treatment of the disease. Coblation radiofrequency technology provides low temperature work with minimal damage to neighborhood tissues. We present a 21 years old male with ankyloglossia treated by coblation surgery in the lights of the literature.

## Introduction

Ankyloglossia named also as hypertrophic lingual frenulum, tongue-tie in the literature. There is a fibrous band between base of tongue and tongue that prevents the movement of the tongue. Males are more often affected than females [1]. Breast feeding, speech problems and nutritional problems are associated with the disease because of functional problem of tongue.

Treatment of the disease is surgical treatment. Time of the surgery is controversial. Cold surgery, electro surgery, laser surgical methods are described in the literature [2-4].

Coblation surgery is a new technology. Coblation surgery can be used in Tonsillectomy, adenoidectomy, soft palate surgery, inferior turbinate surgery in head and neck surgery.

We present a 21 years old male with ankyloglossia treated by coblation surgery in the lights of the literature.

## Case Report

A 21 year old male is encountered to ENT clinics with speech disorder and tongue movement disorder. We found ankyloglossia with thick and short frenulum in our physical examination (Figure 1). The remaining head and neck examination was normal. There is no syndromic child and cleft palate in patient's history. The diagnosis is based on physical examination and symptoms of the patients.

Ankyloglossia was excised during coblation assisted dissection. We used Artrocure probe of coblation device designed for tonsillectomy surgery (Figure 2). Frenulectomy is performed in both tongue side and gingivobuccal side of the frenulum (Figure 3). The settings of coblator are 5 for coblation and 2 for coagulation. The ankyloglossia is dissected to the base of tongue using coblator probe. We left the remain tissue to secondary wound healing without the using suture techniques. The patient is controlled in the postoperatively 3.day, 7.day, 1. Month and 3. Month. There was no complication and restenosis after surgery. Patient satisfaction is good after surgery.

## Discussion

Ankyloglossia is a congenital disorder. There have been reported many classification systems about the disease in the literature [5]. Thick and short lingual frenulum, limited function of tongue and



**Figure 1:** The preoperative aspect of hypertrophic lingual frenulum.



**Figure 2:** The artrocure probe used in surgery.



**Figure 3:** Postoperative 1 month appearance of the patient.

functional disorder of breast-feeding are considered of diagnosis criterias. There is no conclusion about the issue [6]. Prolonged Nipple pain is reported in mothers of ankyloglossia patients in literature [6]. This may lead to social problems as early cessation of breast-feeding.

Pathogenesis of the disease is not clear. Most commonly sporadic cases in otherwise healthy children. Disease can be associated with x-linked cleft palate, van der Woude syndrome and maternal cocaine abuse [7-9]. Connection between mutation of TBX22 gene and ankyloglossia is documented in literature [10].

Many surgical methods are described in the literature in the surgical treatment of ankyloglossia. Frenectomy, frenulectomy and frenuloplasty is described as surgical methods [12,13]. Frenectomy may be chosen in first 6 months of life. Frenuloplasty and frenulectomy can be chosen after 6 month of life time [11]. Cold surgical intervention has disadvantages of prolonged surgical time, bleeding in surgery, risk of damage to lingual nerve and Wharton duct.

Laser surgical intervention is well documented in literature. Different type of lasers are described in ankyloglossia surgery [14-16]. Intraoperative use of laser surgery provides bloodless field of surgery. These surgical method has disadvantages of delayed healing of tissues due to high thermal energy, usage of expensive equipment [16].

Coblation surgery is a technology. Coblation surgery can be used in Tonsillectomy, adenoidectomy, soft palate surgery, inferior turbinate surgery in head and neck surgery [17]. Plasma molecules effects the tissues at low temperatures (40-70 C). Hemostasis is ensured during surgery with minimal damage to neighborhood tissues. This advantage assures reduced risk formation of scar tissue. Teorically this situation may lead to decrease in restenosis. Coblation is cheaper than laser technology and can be applied in many centers with less equipment.

There are many few investigations about the use of coblation in ankyloglossia surgery in literature. We achieved good surgical results in midterm without complication in our study. Further prospective studies are needed about the issue to provide long term results.

## References

- Ballard JL, Auer CE, Khoury JC (2002) Ankyloglossia: Assessment, incidence, and effect of frenuloplasty on the breastfeeding dyad. *Pediatrics* 110: e63.
- Heller J, Gabbay J, O'Hara C, Heller M, Bradley JP (2005) Improved ankyloglossia correction with four flap Z frenuloplasty. *Ann Plast Surg* 54: 623-628.
- Haytac MC, Ozcelik O (2006) Evaluation of patient perceptions after frenectomy operations: A comparison of carbon dioxide laser and scalpel techniques *J Periodontol* 77: 1815-1819.
- Doshi Y, Shah M, Khandge N, Sanghavi A (2010) Advantages of diode laser (940 Nm) over surgical blade in management of ankyloglossia: A case report. *J Oral Laser Appl* 10: 165-169.
- Suter VGA, Bornstein MM (2009) Ankyloglossia: Facts and Myths in Diagnosis and Treatment. *J Periodontol* 80: 1204-1219.
- Segal LM, Stephenson R, Dawes M, Feldman P (2007) Prevalence, diagnosis, and treatment of ankyloglossia: methodological review. *Can Fam Physician* 53: 1027-1033.
- Pauws E, Peskett E, Boissin C, Hoshino A, Mengrelis K, et al. (2013) X-linked CHARGE-like Abruzzo-Erickson syndrome and classic cleft palate with ankyloglossia result from TBX22 splicing mutations. *Clin Genet* 83: 352-358.
- Sudhakara Reddy R, Ramesh T, Vijayalakshmi N, Lavanya Reddy R, Swapna LA, et al. (2012) Van der Woude syndrome- a syndromic form of orofacial clefting. *J Clin Exp Dent* 4: 125-128.
- Harris EF, Friend GW, Tolley EA (1992) Enhanced prevalence of ankyloglossia with maternal cocaine use *Cleft Palate Craniofac J* 29: 72-76.
- Pauws E, Moore GE, Stanier P (2009) A functional haplotype variant in the TBX22 promoter is associated with cleft palate and ankyloglossia. *J Med Genet* 46: 555-561.
- Heller J, Gabbay J, O'Hara C, Heller M, Bradley JP (2005) Improved ankyloglossia correction with four-flap Z-frenuloplasty *Ann Plast Surg* 4: 623-628.
- Tuli A, Singh A (2010) Monopolar diathermy used for correction of ankyloglossia. *J Indian Soc Pedod Prev Dent* 28: 130-133.
- Ramya V, Mani Sundar N, Balaji A (2012) Management of ankloglosia with scarpel and electrosurgery method. *Indian Journal of multidisciplinary dentistry* 2: 472-475.
- Aras MH, Göregen M, Güngörmüş M, Akgül HM (2010) Comparison of diode laser and Er:YAG lasers in the treatment of ankyloglossia. *Photomed Laser Surg* 28: 173-177.
- Fiorotti RC, Bertolini MM, Nicola JH, Nicola EM (2004) Early lingual frenectomy assisted by CO2 laser helps prevention and treatment of functional alterations caused by ankyloglossia. *Int J Orofacial Myology* 30: 64-61.
- Kotlow L (2011) Diagnosis and treatment of ankyloglossia and tied maxillary fraenum in infants using Er:YAG and 1064 diode lasers. *Eur Arch Paediatr Dent* 12: 106-112.
- Duarte VM, Liu YF, Shapiro NL (2014) Coblation total tonsillectomy and adenoidectomy versus coblation partial intracapsular tonsillectomy and adenoidectomy in children. *Laryngoscope* 124: 1959-1964.