ECRONICON OPEN ACCESS

EC PAEDIATRICS
Review Article

Ankyloglossia and Breastfeeding: Focus

Daouda D Ndour[1]* and Gueye Doudou[2]

[1]*Pediatrics Department, Dalal Jamm National Hospital, Dakar, Senegal*

[2]*Pediatric Surgery Department, Albert Royer Children's Hospital, Dakar, Senegal*

***Corresponding Author:** Daouda D Ndour, Pediatrics Department, Dalal Jamm National Hospital, Dakar, Senegal.

Received: January 06, 2021; **Published:** January 27, 2021

Abstract

Ankyloglossia is relatively rare in the newborn population (between 4 and 11% of newborns in most series). But it is a clinical entity that when associated with breastfeeding problems deserves recognition and early management to reduce its impact on growth and development. There are currently no universally accepted diagnostic criteria.

Frenotomy is an effective surgical treatment and is safe when performed by an experienced physician.

We propose to make a development to shed light on this under-diagnosed pathology.

Keywords: *Ankyloglossia; Breastfeeding; Frenotomy; Frenuloplasty*

Introduction

Ankyloglossia is relatively rare in the newborn population.

It is thus little sought after and therefore very little diagnosed. But inspection of the tongue and its function should be part of the examination of the new-born at birth. Ankyloglossia can be the cause of great difficulty breastfeeding.

It is difficult to come up with a universally accepted definition of ankyloglossia. In the past, definitions have been based on oral anatomical features or functional impairment [1-3]. The criteria used to diagnose ankyloglossia vary, and there are currently no accepted standards for this.

The term ankyloglossia comes from the Greek words "agkilos", eighth or curved, and "glossa", language. It can be defined as adhesion of the tongue, when the frenulum is too short or adheres to the tip of the tongue [4,5]. It is a malformation of the lingual frenulum, which is too short or too rigid, which causes a deficit in mobility of the tongue. Often congenital, it can prevent the new-born from sucking normally. At an older age, it causes feeding and speech difficulties.

The prevalence of ankyloglossia varies in the literature, reflecting the lack of a uniform definition. Estimates vary between 4% and 11% in newborns [2,6,7].

Evaluation and diagnosis

During embryonic development, the tongue is fused to the floor of the mouth. Then the death and resorption of the cells release the tongue, and the frenulum remains the only vestige of this initial fusion. The lingual frenulum also resolves as a child grows, when the

alveolar ridges develop, and the tooth eruption begins. This process occurs between the first six months and the first five years of life. Ankyloglossia can be classified based on the degree of fusion that persists between the tongue and the floor of the mouth [6,8,9].

Kotlow scale [10]: Length of the free tongue (distance from the end of the tongue to its attachment to the frenulum):

- Class I: 12 - 16 mm: Minimal
- Class II: 8 - 11 mm: Moderate
- Class III: 3 - 7 mm: Severe
- Class IV: < 3 mm: Complete.

A distance > 16 mm is considered clinically acceptable.

All newborns should have their oral cavity examined to assess how well they are functioning as well as their anatomy. The examination should include palpation of the hard and soft palates, gums and sublingual areas, as well as movements of the tongue and length, elasticity and insertion points of the sublingual frenulum.

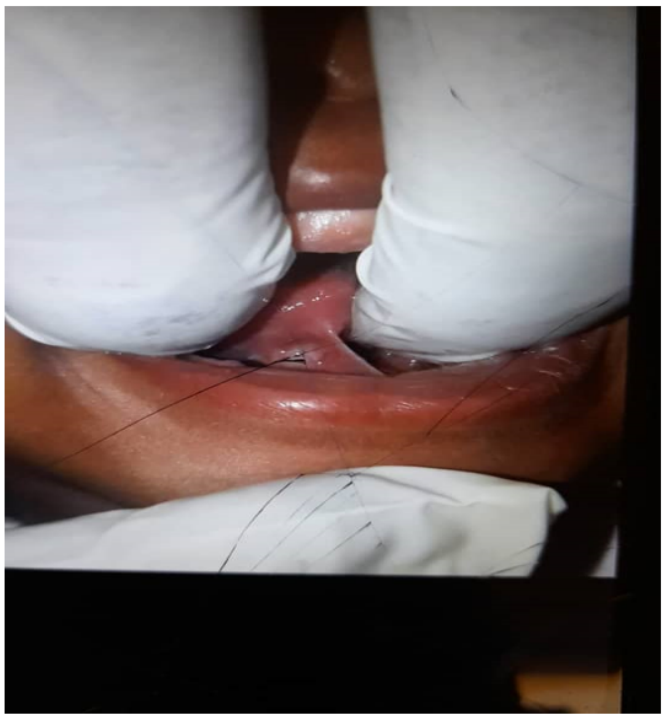

Figure 1: *Image of a short tongue frenulum in a new-born [11].*

Appearance	Operation
Appearance of the tongue when it is raised 2: Round or square 1: Small groove visible at the tip of the tongue 0: Heart-shaped or V-shaped	Lateralisation 2: Complete 1: Body of the tongue but not the tip 0: none
Elasticity of the brake 2: High elasticity 1: Moderate 0: Minimal or non-existent	Tongue elevation 2: From the tip to the centre of the mouth 1: Only the edges to the centre of the mouth 0: The tip remains at the level of the alveolar ridge and only reaches the centre of the mouth when the jaw is closed.
Brake length with tongue raised 2: Greater than 1cm 1: Equal to 1cm 0: Less than 1cm	Tongue extension 2: The tip protrudes beyond the lower lip. 1: The tip only protrudes beyond the lower gum. 0: None of the two cases or bumps in the middle of the tongue or before
Attachment area of the lingual brake to the tongue 2: Posterior to the tip of the tongue 1: At the tip 0: Tip adhesion	Extension of the anterior tongue 2: Complete 1: Moderate 0: Low or non-existent
Area of attachment of the lingual brake to the lower alveolar crest 2: Adhesion before the edge 1: Adhesion just below the edge 0: Adhesion at the edge	Digging 2: From the whole tongue, clearly in the gutter 1: Cones only, slightly gutter shaped 0: Little or no excavation
	Peristalsis 2: Complete from front to back part 1: Partial beginning after the tip of the tongue 0: None or reverse movement
	Back to a starting position 2: Never 1: Periodically 0: Frequently or with each suction

Table 1: *Hazelbaker scale for assessing lingual frenulum function.*

The infant's tongue is examined according to the 5 configuration criteria and the 7 functioning criteria. Significant ankyloglossia is diagnosed when the total result for setup is less than or equal to 8 and/or the total result for operation is less or equal to 11 [12].

Consequences on breastfeeding

Ankyloglossia can in some cases lead to serious breastfeeding problems and impair the initiation of a good mother-child relationship.

Complications of breastfeeding due to ankyloglossia can generally be classified into the following two categories:

For the mother

Ankyloglossia can cause injury and continued pain in the nipples when compressing the breast through the alveolar ridge instead of the tongue [13].

The milk ejection reflex is also inhibited by pain.

This is the cause of poor drainage of the breasts.

And all of this leads to repeated infections of the breasts and blocked milk ducts.

For the child

For children, the consequences of ankyloglossia are mainly linked to inefficient and inadequate sucking by restricted action of the tongue and weak wave movement. The tongue is thus unable to compress the breast effectively.

In addition, there is a seal deficiency because the labial frenulum is too short and does not allow the lips to be upturned adequately.

The quantities of milk absorbed are then insufficient and the feedings are interminable.

The major risk is weight loss and over time a failure to thrive, the consequences of which can be dramatic.

Management of complications of ankyloglossia affecting mother and infant

If the nipple has a lesion or infection, specific treatment should be implemented. Mastitis or yeast infection should be treated.

Some mothers may need to stop breastfeeding for one or more days to allow the nipples time to heal. These mothers should be encouraged to express their milk to maintain their milk supply and to choose an alternative method of giving it to their babies. A low milk production must be the subject of a consultation and everything must be done to revive it.

Infants who have experienced slow weight gain or weight stagnation may temporarily need supplements of expressed breast milk or industrial milk [12].

Therapeutic management

Brakeotomy

It is indicated only for membranous brakes. Its procedure is simple, safe and does not require anaesthesia.

It can be easily done: by an experienced midwife, paediatrician, or breastfeeding consultant.

It normally causes little or no bleeding. Complications are rare. It should be done in the neonatal period, before the age of 3 months. For Geddes DT., *et al*. [14] the benefits of freinotomy are clear: improvement in the quality of the suckling with a much greater transfer of milk as well as a reduction in pain for the mother.

Frenuloplasty

This is a real surgery. It is performed under general anaesthesia. It must be performed by surgeons.

The indication arises most often in older children or in adults.

Conclusion

Ankyloglossia is a clinical entity that when associated with breastfeeding problems deserves to be recognized and managed as early as possible to minimize its impact on growth and development.

Frenotomy is an effective and safe surgical treatment when performed by an experienced doctor.

To make more definitive recommendations, we will have to wait for the establishment of precise diagnostic criteria and the conduct of well-designed clinical trials.

Bibliography

1. Messner AH and Lalakea ML. "Ankyloglossia: controversies in management". *International Journal of Pediatric Otorhinolaryngology* 54 (2000): 123-131.
2. Hogan M., *et al.* "Randomized, controlled trial of division of tongue-tie in infants with feeding problems". *Journal of Paediatrics and Child Health* 41 (2005): 246-250.
3. Jorgenson RJ., *et al.* "Intraoral findings and anomalies in neonates". *Pediatrics* 69 (1982): 577-582.
4. Dorland WAN. "Dorland's Illustrated Medical Dictionary, 31st edition". Philadelphia: WB Saunders (2007).
5. Gennaro AR and Gould MG. "Blakiston's Gould Medical Dictionary, 4th Edition". Toronto: McGraw-Hill (1979).
6. Messner AH., *et al.* "Ankyloglossia: Incidence and associated feeding difficulties". *Archives of Otolaryngology - Head and Neck Surgery* 126 (2000): 36-39.
7. Lauren M., *et al.* "Prevalence, diagnosis, and treatment of ankyloglossia Systematic review". *Canadian Family Physician* 53 (2007).
8. Salinas CF. "Orodental findings and genetic disorders". *Birth Defects Original Article Series* 18 (1982): 79-120.
9. Wright JE. "Tongue-tie". *Journal of Paediatrics and Child Health* 31 (1995): 276-278.
10. "Tongue Tie – from Confusion to Clarity" by Carmen Fernando.
11. Henry L and Hayman R. "Ankyloglossia its impact breastfeeding". *Nursing for Women's Health* 18.2 (2014): 122-129.
12. Jeanne Ballard., *et al.* "Protocol Committee Academy of Breastfeeding". *Medicine* 3 (2004).

13. Ballard., *et al.* "Ankyloglossia: assessment, incidence, and effect of frenuloplasty on the breastfeeding dyad". *Pediatrics* 110.5 (2002): 1-6.

14. Geddes DT., *et al.* "Frenulotomy for breastfeeding infants with ankyloglossia: effect on milk removal and sucking mechanism as imaged by ultrasound". *Pediatrics* 122.1 (2008): e188-e194.

Volume 10 Issue 2 February 2021