



GLOBAL JOURNAL OF MEDICAL RESEARCH: I
SURGERIES AND CARDIOVASCULAR SYSTEM
Volume 14 Issue 1 Version 1.0 Year 2014
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-4618 & Print ISSN: 0975-5888

Ankyloglossia Intervention is Safe Minor Surgical Procedure with Tubeless Anesthesia

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Introduction- Ankyloglossia, also referred to as tongue-tie, is a congenital anomaly of the tongue characterized by short and sometimes anteriorly inserted frenulum. Ankyloglossia occurs in approximately 5% of newborn infants, at a male to- female ratio of 2.6:1(1). The clinical significance of ankyloglossia is a matter of controversy, particularly as it relates to breast-feeding difficulties; sore nipples , poor infant weight gain(2), neonatal dehydration , and shortened breast-feeding duration have been reported as possible consequences of ankyloglossia(2,4).

GJMR-I Classification : NLMC Code: WF 350



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Ankyloglossia Intervention is Safe Minor Surgical Procedure with Tubeless Anesthesia

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I. INTRODUCTION

Ankyloglossia, also referred to as tongue-tie, is a congenital anomaly of the tongue characterized by short and sometimes anteriorly inserted frenulum. Ankyloglossia occurs in approximately 5% of newborn infants, at a male to- female ratio of 2.6:1⁽¹⁾. The clinical significance of ankyloglossia is a matter of controversy, particularly as it relates to breast-feeding difficulties; sore nipples ⁽²⁾, poor infant weight gain⁽²⁾, neonatal dehydration ⁽³⁾, and shortened breast-feeding duration have been reported as possible consequences of ankyloglossia^(2,4).

II. PATIENTS AND METHOD

We reviewed all the patients with the diagnosis of tongue tie between February 2007 and June 2012 who undergone a new surgical management to assess the complication and success rates.

Patients were identified from outpatient correspondence to general practitioners and pediatricians if they were initially referred for consideration of ankyloglossia as a cause of feeding difficulties, incomplete protrusion of the tongue out of the alveolus fig(1), improper phonation of some letters, small bifid tongue at the tip fig (2) with heart shape tongue and separation of the incisor teeth at older age group fig (3).



Figure 1 : Improper protrusion of tongue Figure 2 : Heart shape tongue Figure 3 : Separation of teeth

All patients were in a good health fasting for 4 hours (breast fed babies) or for 4-6 hours (formula fed babies) premedicated by atropine (0.01 mg/kg) intravenously at time of induction of anesthesia by mask with halothane and close monitoring .

While the baby in supine position under good light has spontaneous breathing and being deeply anesthetized the procedure started with full identification of the tongue so the tip of the tongue pulled outside and superiorly using magile forceps as shown in fig (4), then a fine needle unipolar coutryery is used to cut the tie with a procedure lasting between 10-30 second only as shown in fig(5).



Figure 4 : Identification of the tongue tie

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Figure 5,6 : Fine needle coutery to cut the tie with few seconds only

Then we kept the baby in the recovery room until full recovery is achieved, the baby is fed by the mother and checked again by the surgeon before leaving the hospital.

The studied patients were relating to possible complications and some subjective indicators of success after a minimum 14 day period.

III. RESULT

Sixty four baby were successfully managed by this method . The mean age of babies on the day of tongue tie division was(270) days, with the youngest infant being (30) days old and the oldest(2210) days old. The study group consisted of 35 males and 29 females.

The type of feeding before the procedure was documented and included all types of feeding attempted by the mother until the date of tongue tie division. Forty mothers were at least partly breast feeding, four infants were exclusively formula fed.

Of the 44 milk fed infants(breast and formula), 35 had problems latching on. twenty three of the mothers had sore nipples and 5 had mastitis.

Thirty tow of the 40 mothers noted an improvement in the ease of feeding after the procedure, with 30 also noting an improvement in the time taken for a feed. Three of the four formula fed infants were improved in both these areas.

With regard to the complication rate, any bleeding after leaving the clinic was considered significant as well as any episodes of infection, any need to seek medical advice, and any repeat procedure required to release the tongue tie. There were no incidents of bleeding, infection and no requirement for further medical advice after this procedure.

IV. DISCUSION

Hall and Renfrew rightly describe the literature with relation to ankyloglossia as containing "little high quality objective evidence"; they also describe the difficulties in study methodology in this setting with particular reference to concealing the diagnosis from

parents in control studies.⁽⁵⁾ With regards to intervention, they note that significant venous bleeding could occur if technique is not meticulous but we found no reports of serious adverse events".

Ankyloglossia intervention has been performed in our center for over 25 years in the operative room with anaesthetic procedures using endotracheal tube and securing the larynx with packing to prevent aspiration of blood or any secretion to cut the tongue tie by a scissor and suturing the tongue. like in any oral surgical intervention procedure.

A study done in Glasgow, UK⁽⁶⁾. Which illustrate the management of tongue tie in infants as an out patients simple procedure to get red from the complication of the anesthesia is shown in table (1).

Table 1 : Complications

Complications after leaving clinic	Yes	Yes (%)	No	No (%)	Total
Bleeding	1	2	43	98	44
Pain	1	2	43	98	44
Infection	0	0	44	100	44
Further medical advice needed	0	0	44	100	44
Repeat procedure needed	2	5	42	95	44
Total	4	9	40	91	44

In this study there is bleeding ,some time the procedure is insufficient to manage the tongue tie.

The method which we used depend on the cutting diathermy using low voltage setting of the machine with tip needle like which will finish the surgery within few seconds without any evidence of bleeding and achieved sharp cutting of the tie just at the base of the tongue while the baby is deeply anaesthetized and in a time not more than the time required to put the endotracheal tube and with that number of babies Our study shows that: No indication for intubation in the management of tongue tie. And the ankyloglossia (frenotomy) can be easily treated with a low complication using a unipolar cutting diathermy and under tubeless anesthesia.

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