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Management of posterior ankyloglossia and upper lip ties in a tertiary otolaryngology outpatient clinic

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ABSTRACT

Objectives: Recent studies have shown an association between ankyloglossia (tongue tie) and upper-lip ties to breastfeeding difficulties. Treatment is commonly multidisciplinary involving lactation consultants and surgical management with tongue tie and upper lip tie release. There is currently limited data looking at posterior ankyloglossia and upper lip ties.

Methods: Consecutive patients seen at an ENT outpatient clinic for ankyloglossia and upper-lip ties from May 2014–August 2015 were assessed for an outpatient frenotomy. Breastfeeding outcomes were assessed following the procedure.

Results: 43 babies were seen and 34 patients had a procedure carried out. Babies ranged from 2 to 20 weeks old with the median age being 6.6 weeks. The most common presenting complaint was latching issues (85%) with mothers' painful nipples being the second (65%). 21 patients (62%) had a tongue tie release, 10 (29%) had both a tongue tie and upper lip tie divided, whereas 3 (9%) had an upper-lip tie alone divided. 29 (85%) of the patients who had a procedure carried out had an immediate improvement in breastfeeding, while 28 (82%) had a continued improvement at 2 weeks follow up.

Conclusions: Frenotomy for posterior ankyloglossia and upper lip ties is a simple procedure that can be carried out in an outpatient setting with apparent immediate benefit. Otolaryngologists are likely to have an increasing role to play in the evaluation and management of ankyloglossia and upper lip ties in babies with breastfeeding difficulties.

1. Introduction

Ankyloglossia or tongue-tie is a congenital condition characterized by a lingual frenulum that can limit tongue movement [1,2]. Contemporary studies have shown a link between ankyloglossia and breastfeeding difficulties, with an improvement in breastfeeding outcomes following tongue-tie release procedures [3–8]. Ankyloglossia can be classified as the more obvious anterior ankyloglossia, with a thin web-like lingual frenulum inserting at or just behind the tongue tip. or the less obvious posterior ankyloglossia, which is thicker and further back from the tongue tip [9,10]. Upper lip ties are characterized by a thickened labial frenulum which restricts lip splay [4,11]. Recent studies have shown improved breastfeeding outcomes following posterior ankyloglossia and upper lip tie frenotomies [4,9,12,13]. Unfortunately there is currently limited literature of this condition and its management.

The aim of our study was to assess the outcomes of office-based frenotomy for the management of posterior ankyloglossia and lip ties as managed by our multidisciplinary service.

2. Methods

2.1. Study design

A prospective audit was performed of patient outcomes following frenotomy for ankyloglossia and/or upper lip tie in an outpatient setting between May 2014–September 2015. Data including patient demographics, breastfeeding concerns and post-frenotomy outcomes were collected prospectively on a dedicated database. Where incomplete, patient records were reviewed for further detail.

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2.2. Referral process

Outpatient frenotomy for posterior ankyloglossia and upper lip tie is performed by a paediatric Otolaryngologist. This service is in collaboration with five public hospital-appointed lactation consultants who assess and refer babies for whom they are unable to perform a frenotomy within their current scope of practice. This includes (i) infants beyond the age of 6 weeks, (ii) those with a posterior tongue tie, or (iii) those with an upper lip tie. Assessment of babies involves a comprehensive discussion with the mother regarding breastfeeding concerns and confirmation that vitamin K has been given. The Hazelbaker Assessment Tool is used to assess lingual function by the lactation consultants prior to a referral to our outpatient service [14]. Our referral process was customised after discussion with other centres offering similar services to help recognise possible pitfalls, including unnecessary appointments (Fig. 1). Mothers with active mastitis or nipple infections are advised to postpone their appointment or breastfeed from the unaffected side until the infection is cleared.

2.3. Inclusion criteria

Mothers and babies referred by a lactation consultant with ankyloglossia and/or lip tie contributing to significant breastfeeding (or occasionally bottle-feeding) concerns were included. Mothers with breastfeeding concerns were also motivated to continue breastfeeding.

2.4. Exclusion criteria

Patients with comorbidities which added significant risk to the frenotomy including (i) known coagulopathy, and (ii) significant craniofacial anomaly with risk of tongue base obstruction, were excluded.

2.5. Intervention and follow up

Verbal consent was obtained from the parents following a discussion of breastfeeding concerns and to rule out exclusion criteria. Possible complications of bleeding, infection, and scarring were discussed, as well as the possibility of non-resolution of breastfeeding concerns. Parents were not present for the procedure. The baby was swaddled and laid flat on the bed with the assistant holding the baby's head midline. Using a headlight and magnification, the tongue was elevated using a metal grooved elevator. The submandibular ducts were identified and the lingual frenulum clamped and released twice using fine mosquito clamps. The lingual frenulum was then sharply divided with scissors between the clamped areas. A gauze swab was then placed in the wound and digital palpation used to apply pressure for haemostasis, and confirm that the frenulum was released back to tongue muscle.

For an upper lip frenotomy, the upper lip frenulum was clamped and released twice as above and sharply divided between, with a gauze swab held on the wound until haemostasis was achieved.

1 mL of sucrose was given via a 1 ml syringe to settle the baby post-procedure if required. The parents were then brought into the room and an attempt at breastfeeding was made with guidance from the lactation consultant. The wound was checked prior to discharge from clinic. No analgesia or antibiotics were prescribed. The parents were given a printed handout of stretching exercises to be carried out at home for the following two weeks or until complete wound healing had occurred.

2.6. Follow up

Mothers were followed up by a lactation consultant by either clinic appointment or phone call within 24 h if a breastfeed was not able to be carried out in clinic, and at 2 weeks. Information regarding mothers' ability to continue breastfeeding and/or improved breastfeeding outcomes were collected and entered in the database.

3. Results

43 patients were seen at our outpatient clinic and 34 had a procedure carried out between May 2014–August 2015 (Fig. 2). Most of them were males (n = 21, 62%) and of New Zealand European ethnicity. The median age was 6.6 weeks with a wide range of 2–20 weeks. The most commonly reported breastfeeding issues included poor latching (n = 29, 85%), mothers' painful nipples (n = 22, 65%) and poor weight gain (n = 14, 41%) (Table 1).

14 of these patients had a previous anterior frenotomy carried out prior to their outpatient clinic appointment. Most patients (n = 20, 59%) had a posterior ankyloglossia only, with 3 (9%) patients having an upper lip tie only. The remaining patients had a combination of either both posterior ankyloglossia and an upper lip tie (n = 10, 29%) or anterior and posterior ankyloglossia (n = 1, 3%).

The 9 patients who did not have a procedure carried out were either found to not have significant ankyloglossia or upper lip ties, or breastfeeding had improved.

Outcomes following frenotomy are outlined in Table 2, with immediate improvement in 29 (85%) patients. At 2 week follow up 28 (82%) patients had improvement in breastfeeding. Follow up was not obtained for 1 patient due to loss of contact with the mother. Two frenotomies were revised, one at two weeks and one at several months. There was no apparent difference in demographics or outcomes between the types of procedures carried out. No complications occurred.

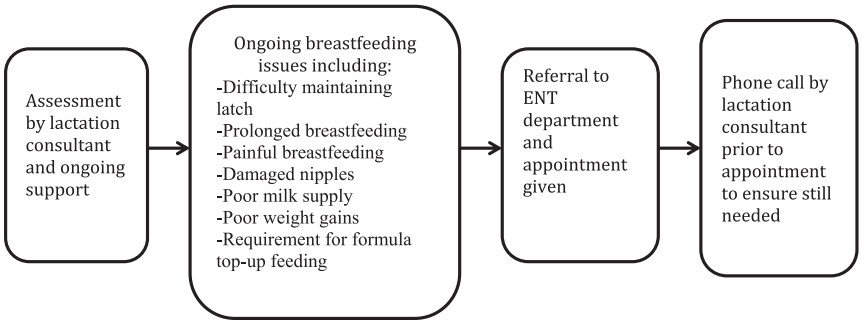

Fig. 1. Referral process within our DHB.