CASE REPORTS

Breastfeeding Difficulties as a Result of Tight Lingual and Labial Frena: A Case Report

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ABSTRACT - A breastfed baby with impending failure to thrive resisted assuming a wide-mouthed, flanged-lip position at breast. A lingual frenotomy was only partly successful in correcting his breastfeeding problems. Following a labial frenectomy, the baby was better able to flange his upper lip against the breast. He then began breastfeeding with full efficiency. *JHL* 11:313-316, 1995.

KEYWORDS: breastfeeding, frenulum, labial frenum.

INTRODUCTION

A frenum, or frenulum, is "a fold of mucous membrane that connects two parts, one more or less moveable, and serves to check the movement of that part."[1] The impact of the lingual frenum on breastfeeding was well covered in a special theme issue of the *Journal of Human Lactation.*[2] A tight or short lingual frenum in a breastfed infant may have no effect on breastfeeding;[3] or it may cause an incomplete seal between mouth and breast on one or both sides,[4-5] or result in sore nipples and/or poor weight gain.[6-9] Problems often resolve after a frenotomy (incision in the frenum) or frenectomy (removal of frenal tissue).

In addition to the lingual frenum, there are several other frena in the mouth. Buccal frena connect cheeks to gum, and labial frena connect lips to gum; the superior labial frenum runs from the center of the inner lip to the gumline. Since an unusually short or thick upper labial frenum can cause the central incisors to separate, a labial frenotomy or frenectomy is sometimes performed after the teeth have emerged,[10] but a review of the literature revealed no references to the impact of the labial frenum on breastfeeding. In the following case study, the labial frenum appeared to have a small but significant impact on breastfeeding success.

Received for review, February 2, 1995; revised manuscript accepted for publication, June 12, 1995. NOTE: Although "frenulum" is the term most often used by breastfeeding specialists, the speech therapists and dentists with whom the authors spoke used the term "frenum." We have followed their usage in this article.

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CASE DESCRIPTION

The fourth baby of an experienced breastfeeding mother and a La Leche League leader, weighed 4.2 kg (9 lb 4 oz) at birth. Pregnancy was uneventful; labor and delivery were accomplished in two hours and 45 minutes. Two of the three older children had had some early difficulty in latching on and sucking effectively, and the mother had used the Marmet/Shell suck training technique[11] with good results.

Her fourth baby seemed to nurse well initially. By six weeks postpartum, however, the mother complained that breastfeeding was not fun. Her son nursed "almost constantly," often with eyes closed. He appeared leaner to her than the others had at the same age, and he seemed to be losing energy. His diapers seemed progressively drier and stools were becoming less frequent, dropping to one every ten days. The mother's breasts had become very soft and elastic, and she could express very little milk. Her doctor felt that the baby was well hydrated and basically healthy, with adequate weight gain, but the weights had been recorded on different physicians' scales, and weight gain was substantially lower than that of his siblings at that age. The mother's concern increased.

At eight weeks, she began working with a lactation consultant. Examination revealed a short lingual frenum (the mother's had been clipped in childhood), although the baby was able to extend his tongue to the gumline. No unusual palate features or suck anomalies were noted. The baby assumed a very straight, although not arched, position at the breast. He extended his head, grasping only her long and very protractile nipple. His lips were pursed as he sucked, not because his mouth had not opened well, but

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because any substantial amount of breast tissue was beyond his grasp on the nipple. He had received no supplements or bottles and had never had a pacifier.

INITIAL MANAGEMENT

Since the baby was able to extend his tongue to the gumline, the LC and mother decided to concentrate on a more flexed position, better latch-on, and weight gain. The mother practiced positioning the baby with his hips bent and his nose opposite her nipple as latch-on began. She found that he breastfed best in a football hold, with his head firmly braced in position by her leg or arm. She also found that she often needed to tug his lower lip to flange it out as he nursed, perhaps because he strongly resisted being held close to her breast and would gradually slide his mouth back onto her nipple, where lip flanging was less necessary. The mother began switching sides frequently, whenever she felt his interest or efficiency began to diminish. She also used a hospital-grade electric pump, single- or double-pumping several times a day as time allowed, and cup feeding the expressed milk.

At nine weeks, the baby's mouth position looked substantially better. However, the mother was unable to express enough milk to reach her initial goal of four ounces/day, and a weight check of the baby at ten weeks showed a three-ounce weight loss. Donor milk was cup-fed in addition to her pumped milk. With the extra milk, weight gain improved dramatically, diapers were wetter and more frequent, and the baby began stooling about every three days.

Table 1. Age, Weight, and Interventions for an Infant Whose Breastfeeding was Compromised by Short Lingual and Labial Frena.

Age (wks)	Weight (lb oz)	Weight (kg)	Intervention
0	9 4	4.2	
.5	9 4	4.2	
3	10 3	4.6	
6	11 0	5.0	
8			A* Positioning altered, pumping/ cup feeding initiated
10	10 13	4.9	
11	11 14	5.4	B Pumping ended
12	11 15	5.4	C Pumping resumed
13	11 9	5.2	D Feeding tube begun, with pumped and donor milk, averaging 11 oz/day
15	12 7	5.6	E Lingual frenotomy performed, supplement gradually decreased to 2 to 6 oz/day
17	13 0	5.9	
19			F Labial frenotomy performed, supplement eliminated
20	14 0	6.4	
23			G Solids introduced
26	16 2	7.6	
29	18 2	8.2	

*Letters are keyed to Figure 1.

During one vacation week, when the father cared for the other children full-time, the baby gained an average of 2.5 oz/day. The mother, believing that feeding problems were behind them, discontinued supplements for a week. The baby's diaper count dropped and weight gain ceased.

At 13 weeks, when her son weighed about 12 pounds, the mother began using a feeding tube device, with her own and donor milk, at every feeding. She pumped about five times/day for a total of nine or ten ounces, and used as much additional donor milk as the baby would take. Supplements averaged 11 oz/day (range 10-16 oz). Weight gain was satisfactory and consistent from then on, with daily stooling. Table 1 and Figure 1 illustrate the baby's weight gain and the timing of interventions.

Although the baby gradually lost his tendency to keep his body straight, he continued trying to extend his head. Breastfeeding was a struggle, not only because of the awkward, braced position, but because he pushed against his mother's breast with his hands and/or turned his head to the side if prevented from extending his head. As the mother's supply increased and breast fullness returned through pumping, he continued to resist taking a large mouthful of breast.

FIRST SURGICAL INTERVENTION AND FOLLOW-UP

A lingual frenotomy was performed by the family dentist at 15 weeks. In preparation, the mother

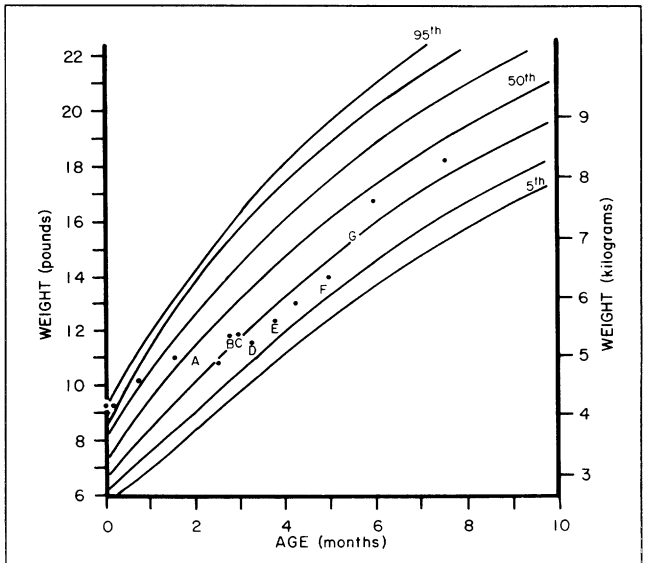

Figure 1. Growth chart adapted from the Weight-for-age of boys in the "12-month breast-fed pooled data set," An Evaluation of Infant Growth, WHO publication WHO/NUT/94.8, 1994; p. 59.

shared with him the special *Journal of Human Lactation* issue on ankyloglossia. Following the frenotomy—with no anesthesia and bleeding limited to several drops—there was an immediate, but not total, improvement in the baby's feeding efficiency. He now nursed without the feeding tube during most of the day, but took two to six ounces of supplemental expressed milk in the evening. The mother was able to stop using donor milk and gradually reduced pumping to twice each day.

Breastfeedings remained difficult, however. The baby persisted in pushing at the mother's breast with his hands and extending his head or, if prevented from doing so, turning his head to the side. It was as if he were doing his best to maintain a long, slender, finger-like teat instead of the typical wide-mouth, nose-and-chin-at-rounded-breast mouthful. The mother's elastic nipple and breast tissue made it possible for him to do so, but this inevitably limited his access to her milk sinuses.

At 17 weeks, the LC commented idly that the sides of the baby's upper lip drew in slightly with every suck, but that the middle of his upper lip remained rigid. The mother gasped and said, "I know what the problem is." She curled back the baby's upper lip to reveal a short, thick labial frenum. Her older son had had a laser "labial frenectomy" a year earlier because his labial frenum was causing his incisors to separate.

SECOND SURGICAL INTERVENTION AND FOLLOW-UP

The baby returned to the dentist a week later. A laser frenectomy (which ablates tissue with little or no bleeding) was performed, again without anesthesia. The mother lay in the dentist chair and held her son on her chest—an arrangement that was much easier on everyone than simply holding him on a table as was deemed necessary for his lingual frenotomy. The dentist commented that this was the first time he had dealt with both lingual and labial frena in the same patient.

The baby breastfed immediately following the surgery. He began by pushing with his hands, but his mother moved them away and brought him back into good position. In her words, "His eyes opened wide, as if he couldn't believe what he was doing. And he had a *good* nursing." Evening supplementation was continued for two days, after which the baby seemed to resist the feeding tube. He continued to gain about an ounce/day without supplementation.

Solids were introduced at about five and one-half months. At seven months and a sturdy-looking 8.2kg (18 lb 2 oz), the baby continues to breastfeed frequently. His mother feels he feeds less easily than her other children did—the old habit of pushing still appears now and then—but he maintains an adequate milk supply on his own, and she nurses without having to monitor his position. Finally, breastfeeding is enjoyable for both of them.

DISCUSSION

Most breastfeeding specialists are alert to the possibility of a tight lingual frenum. This was this LC's first exposure to the effect—and existence!—of a tight labial frenum, and only the family history of "frenal anomalies" alerted the mother to it. A baby who cannot flange his upper lip may need to alter his nursing position so that his lip remains close to his upper gum. For at least some mothers and babies, that position may interfere with effective nursing. A mother with a short nipple and inelastic breast tissue might have trouble even achieving latch-on with such a baby, if latch-on itself required substantial lip flanging. It may be that a short or tight inferior labial frenum could cause similar problems, by preventing the lower lip from flanging.

A speech therapist who discussed this case with her peers reported their response that a short labial frenum would not interfere with effective sucking, that the facial muscles surrounding the mouth would compensate (Meixell ME, personal communication, January 1995). Their response may have stemmed from the belief that babies suck at the breast in the same way that they suck on a bottle. However, a short labial frenum that may not interfere with the lip pursing or puckering of bottle-feeding may nonetheless impede the lip flanging that is needed for breastfeeding. LCs should be aware that a health professional's reluctance to intervene surgically may simply reflect lack of knowledge of the mechanics of breastfeeding.

CONCLUSION

A short or tight labial frenum may be an unusual source of sucking problems, but like the lingual frenum, it is easily examined and can be treated. This mother was fortunate to have a dentist who understood the role both frena may play in successful breastfeeding. When a health care provider is unfamiliar with the mechanics of breastfeeding, a description of the different actions of breastfeeding and bottle-feeding may be important in gaining support for a surgical intervention.

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