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Breast Rejection: A Little-Appreciated Cause of Lactation Failure

SUMMARY

Breast rejection is a common cause of breast-feeding failure. We describe 51 mother-infant pairs who visited the Hospital for Sick Children breast-feeding clinic because the baby refused to take the breast. Management was successful in 21 (40%), partially successful in 11 cases (22%), and unsuccessful in 16 (31%). (Three mothers were lost to follow up.) We believe that the early introduction of bottles results in the baby's developing an ineffective suckle, which then causes frustration when the baby tries to breast-feed. Good management of breast-feeding in the newborn period involves avoiding bottles and teaching the mother proper positioning and latching, as well as signs that indicate whether her baby is getting adequate milk. A method of giving supplemental fluids without direct bottle-feeding is described. (*Can Fam Physician* 1990; 36:449–453.)

RÉSUMÉ

Le rejet du sein constitue une cause fréquente d'échec dans l'allaitement maternel. L'article décrit 51 cas de mères et de leurs nouveau-nés qui ont fréquenté la clinique d'allaitement maternel du Hospital for Sick Children parce que les nourrissons refusaient de prendre le sein. Le traitement institué s'est avéré fructueux dans 21 cas (40%), partiellement fructueux dans 11 cas (22%) et infructueux dans 16 autres cas (31%). (Trois mères ne se sont pas présentées pour le suivi.) Nous avons l'impression que l'introduction précoce des bouteilles empêche le nouveau-né de développer une technique adéquate de succion du mammelon, ce qui engendre une frustration lorsque le bébé tente de se nourrir au sein. Pendant la période néonatale, les mesures thérapeutiques adéquates de l'allaitement incluent d'éviter les bouteilles, d'enseigner à la mère une position propice et de lui indiquer les signes démontrant que l'enfant prend des quantités adéquates de lait. L'article décrit également une méthode pour donner des suppléments de liquide sans faire appel directement à la bouteille.

Key words: breast-feeding, breast rejection, family medicine, gynecology, lactation aid, pediatrics

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THE CONCEPT OF "nipple confusion" or "bottle spoiling" is familiar to health professionals or lay people who counsel women having problems with breast-feeding[1,2] because they often see babies refusing the breast. This idea, however, seems quite foreign to many people. Even health professionals who do have direct contact with nursing mothers, such as pediatricians and maternity and nursery nurses, often fail to recognize this problem and ascribe breast rejection to a baby who is "lazy" or a "poor sucker," or to the mother's nipples being "flat," "too large," or "too small."

The experience of the breast-feeding clinic at the Hospital for Sick Children is that breast rejection is one of the most common causes of lactation failure and certainly one of the most difficult to manage. Many of the women who give up breast-feeding in the first few weeks after delivery do so because the baby does not take the breast well.[3] Many of the babies who refuse the breast are bottle-feeding by the time they leave hospital. Thus the rate of failure of breast-feeding is actually underesti-

mated because most hospitals count only babies who are breast-feeding when discharged as breast-feeding babies.

We studied mothers who could not breast-feed their babies because the baby rejected the breast. Our data were collected during 1987.

Method

Data were collected prospectively on all mothers and babies who visited the breast-feeding clinic at the Hospital for Sick Children. Mothers were referred by public health nurses, the La Leche League, family doctors, or pediatricians. Some had heard of the clinic by word of mouth. A standard history and physical examination form was filled in on each mother-infant pair. Some patients were seen in the emergency department because the waiting time for the clinic would have delayed initiating corrective measures too long.

Babies were initially tried at the breast using positioning and latching-on techniques that we have found appropriate. These techniques have been published elsewhere.[4] If the baby still refused the breast, we improvised a lactation aid from an ordinary feeding bottle and a 91.4-cm (36-inch) #5 feeding tube (Figure 1). The tube was filled with milk (expressed breast milk or formula) or, on occasion, 5% glucose water. The far end of the tube was then aligned with the mother's nipple; the baby was then stimulated to open the mouth wide by running the mother's nipple along the baby's lower lip, and when the mouth opened wide, the baby was pulled onto the breast.

Usually the baby would suck once or twice and pull milk from the tube into the mouth. The idea was to keep the baby interested in nursing by giving a reward of milk. This whole operation required one of the clinic staff to help the mother latch on the baby and place the tube, and could take an hour or longer. If the baby did not nurse successfully at the clinic, the mother was asked to continue at home. She was given information about what constituted adequate intake so that if the baby was not taking in enough fluid she would know to return to the clinic or emergency room. Follow up was arranged as required.

All mothers were contacted when their babies were six months old. Success was defined according to the following criteria.

1. The baby was latched on and the mother was able to continue latching the baby onto the breast.
2. The mother was able to nurse the baby without using any supplement for a time, and during this time the baby was gaining well.
3. The mother was still breast-feeding at the six-month follow-up examination or had stopped nursing for reasons unrelated to breast-feeding difficulties.

Partial success was defined according to the following criteria: 1) the baby was latched on, but 2) the mother was never able to do without supplements; or 3) the mother stopped nursing because of problems with breast-feeding.

Failure was defined as not being able to latch the baby onto the breast either in the clinic or at home afterward.

Results

During the third full year of operation of the breast-feeding clinic (1987), 216 new mother-infant pairs were seen, of which 51 (19%) attended primarily because the baby refused the breast.

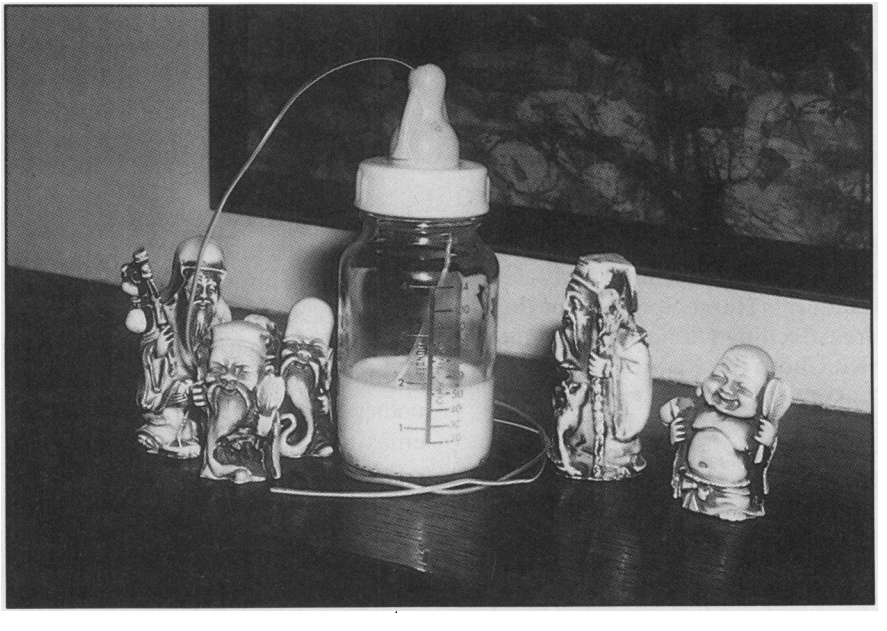
The mean age of the second group of mothers was 30 years, with a range from 22 to 43 years. The baby was the first live birth for 40, the second for nine, and the third for two. The pregnancy had been unremarkable for the vast majority, although five mothers had had minor elevated blood pressure (none requiring medication), and two mothers had had elevated blood sugar levels. The labour occurred at term for 44 of the 51 mothers. Only two mothers had had Caesarean sections, both because of nonprogression of labour.

Forty of the babies were considered normal at birth. Seven others were premature, ranging in gestational age from 34 to 37 weeks by dates and ranging from 1.63 to 2.96 kg in weight. One full-term baby was small for gestational age (birth weight 2.3 kg), one was microcephalic, one had a cleft lip and palate, and one had an adrenal mass diagnosed by ultrasound during the prenatal period.

Several problems had appeared within the first few hours or days after birth. Two babies had congenital heart disease (one with transposition of the great vessels, one with hypoplastic right heart); one baby had hyperbilirubinemia due to ABO incompatibility; and two babies had septic workups for reasons unknown to the mother, although no evidence of sepsis was found.

The most striking aspect of the management of breast-feeding in these mother-infant pairs was the delay in initiating breast-feeding and the early introduction of rubber nipples. Although 40 of the babies were considered normal at birth, only 20 were first nursed within four hours of delivery. Even these 20 babies were nursed for less than 15 minutes before being taken away from the mother for six to 12 hours. All the babies were given bottles within the first four hours; bottle-feeding usually continued throughout the hospital stay, with water being given after each breast-feeding.

Figure 1
Improvised Lactation Aid



Only three of the mothers had kept the babies with them 24 hours a day or stated that the babies were brought consistently at night. Eleven mothers said that the baby was brought sometimes at night, but 26 said that the baby was never brought to them at night during the entire hospital stay, which lasted four to five days for all the normal babies. (For the rest, either the mother did not remember or the baby was in special care.) Because of increasing problems with breast-feeding, 10 mothers started using nipple shields at the suggestion of the nursing staff. In fact these were not proper nipple shields, but rather nipples from the tops of feeding bottles.

The babies visited the clinic at a mean age of 17 days (range three to 76 days). Forty-two were younger than 21 days of age. Thirty-nine of the babies were being bottle-fed, five with water only, 34 with formula or expressed breast milk. Incredibly, 12 mothers were trying to breast-feed exclusively without using supplement, even though the babies were not taking the breast, were falling asleep at the breast without nursing, or were not getting any milk despite nursing with a nipple shield.

Seven of the babies were able to latch on when we simply used proper technique. Of the remaining 44, the lactation aid helped 30 latch on well, and eight more latch on for at least a short time. We were unable to get six babies latched on at all at the clinic visit.

At the six-month telephone follow up, using the criteria for success, partial success, and failure described above, success occurred with 21 of the 51 babies (40%). Twelve of the babies (24%) were still nursing (at least two breast-feedings each day) at six months; six (12%) were breast-feeding exclusively. Partial success occurred with 11 babies (22%). Of these 11, two mothers had stopped breast-feeding because the baby was not gaining, two because of sore nipples, and three because it was too difficult to use the lactation aid. A further two mothers were never able to do without supplements, and two more felt the baby nursed only for comfort and was essentially being formula-fed. Failure occurred with 16 babies (31%). We were unable to contact three mothers.

Interestingly, five of the seven premature babies were successfully breast-fed, as were both babies with congenital heart disease.

Discussion

Our experience supports the belief that breast rejection can occur for reasons other than the early introduction of bottles or artificial nipples. Although there were no such patients in 1987, we have since seen a few babies who were born at home or who roomed in hospital and whose mothers were absolutely certain that no artificial nipples were given, who nevertheless seemed to reject the breast. These babies have almost always had a very unusual type of suckling, although the reason for this is uncertain. Follow up of these patients, most of whom finally latched on, did not suggest any neurologic or developmental problems.

Breast rejection usually represents the most extreme manifestation of the spectrum of problems resulting from nipple confusion and can take two forms. The baby may absolutely refuse the breast, crying, arching, and even pushing away from the mother when the breast is offered; or the baby may allow the nipple into the mouth, but fall asleep almost immediately, perhaps having taken a few token suckles. On occasion, the baby will manifest both behaviours at different times or even at the same nursing. The baby will, however, take a bottle or pacifier eagerly.

Less extreme than breast rejection, but just as serious, is the situation in which the baby does take the breast but nurses with an ineffective suck that was learned with the bottle.[5] A baby who sucks weakly will get little of the milk that the mother produces and can become dehydrated or fail to thrive. At the other extreme of the spectrum of problems is the baby who gains adequately but must nurse frequently and for prolonged periods. It is obvious, however, that not all babies given a bottle during the first few days of life have problems.

Why does nipple confusion occur? Woolridge[6] has described the remarkably complex mechanism of infant suckling, which is completely different from the mechanism of an infant sucking at a bottle.[7] Because little milk is produced during the first three to four days after delivery, giving water or even breast milk by bottle during these crucial first days can train the baby to develop a sucking action appropriate not for the breast but rather for the bottle. In addition to this positive reinforcement in the development of the bottle type of sucking, "imprinting" can also occur.[8]

Because not every baby develops nipple confusion, there are probably other factors that determine whether the baby refuses the breast. Undoubtedly the earlier the bottle is introduced, and the more frequently bottles are given, the more likely breast rejection is to occur. A flat or inverted nipple is harder for the baby to grasp than a protuberant nipple. Although the baby will usually latch to almost any shape of nipple if no bottles are introduced first, the problem of a mother with flat or inverted nipples becomes even more difficult if the baby has learned to expect an immediate reward from an easily grasped bottle nipple.

Knowledge of good latching technique[4] is essential, however, to succeed in getting a baby onto an inverted or flat nipple. It is the experience of many mothers and nurses that some babies are extremely vigorous nursers and will suckle any nipple, whereas others seem very particular and will suckle only if circumstances are ideal. Finally, there is a cultural or psychological aspect to breast rejection. Gartner[9] reports that nipple confusion seems almost unknown in Korea, where babies are universally given formula for the first few days after delivery. Yet one of our patients, a Korea-born woman still very much immersed in her culture and supported by an extended family, was unable to continue breast-feeding because of breast rejection.

Resorting to a nipple shield is not a good strategy, because even the better nipple shields decrease milk supply significantly[10] and can result in the baby's failing to thrive. Furthermore, the baby becomes accustomed to the nipple shield and will refuse to take the breast without it.

Why did some mothers succeed at finally latching the baby onto the breast and succeed at breast-feeding? Although we have tried to determine factors that can contribute to success or failure, we are really left only with a clinical impression. Latching on and successful breast-feeding is more likely to occur under the following circumstances.

Maternal factors positively affecting success include the following.

1. There appears to be an abundant milk supply.
2. The mother visited the breast-feeding clinic early.
3. The mother's nipples were not extremely flat.
4. The mother seemed highly motivated to succeed.
5. The father was strongly supportive.
6. The mother had previously breast-fed successfully.

Infant factors positively affecting success include the following.
1. Prematurity seemed to be protective, but not completely so.
2. The baby who was tried at the breast during the first 24 hours and had accepted the breast before refusing it was more likely to latch on than the baby who had never accepted the breast.
3. The baby who responded by falling asleep at the breast was very unlikely to latch on to the breast.

Each of these factors seemed significant to the staff in the clinic, but no one or two items could predict success. If the baby could not be latched on in the clinic, success was unlikely, though possible.

Is there any reason to give a bottle to a newborn baby whose mother intends to breast-feed? We believe that the usual arguments advanced for giving bottles are insufficient in our present state of knowledge.[11] One particularly damaging practice is to give water to the baby as the first drink to rule out esophageal atresia. The practice seems unnecessary because the condition is uncommon (1:4500 live births)[12] and because a large percentage of babies with esophageal atresia are suspected at birth, because of polyhydramnios during pregnancy or the baby's foaming and gurgling at the mouth. Furthermore, it has never been shown that aspirating water is harmless: on the contrary, aspirating water leads to drowning.

Storey and Johnson[13] showed that injection of water into the larynx of a lamb can produce apnea until the water is washed away with saline. Because colostrum does not appear to be damaging, or at least no more damaging than water, the argument for giving water to rule out esophageal atresia appears specious to us.

The baby at risk for hypoglycemia also frequently receives bottles during the first few days. Although it may be necessary for the baby to get extra glucose or even protein, in many cases close observation with frequent breast-feeding is all that is required. If it is necessary to supplement orally, this can be done using a lactation aid (Figure 2). This method can supply extra calories and treat or prevent hypoglycemia while not giving the bottle directly to the baby. The same strategy can be used for the baby who is becoming dehydrated because the mother's milk has not yet come in.

The problem of jaundice is a complex one, well covered by Auerbach and Gartner.[14] The most common cause of indirect hyperbilirubinemia in the breast-fed baby during the first week of life is an exaggerated "physiologic jaundice" due to inadequate feeding. Infrequent short feedings, coupled with the early introduction of bottles and thereby the development of an ineffective suckle, make the baby get only small amounts of breast milk and have scanty, infrequent stools. This then results in less excretion of bilirubin from the gut, increased reabsorption of bilirubin from the gut, and hyperbilirubinemia.[15,16] Our experience is that showing the mother proper positioning and latching and having her feed the baby more frequently will usually help resolve the hyperbilirubinemia. If necessary, a lactation aid can be used to give extra fluids.

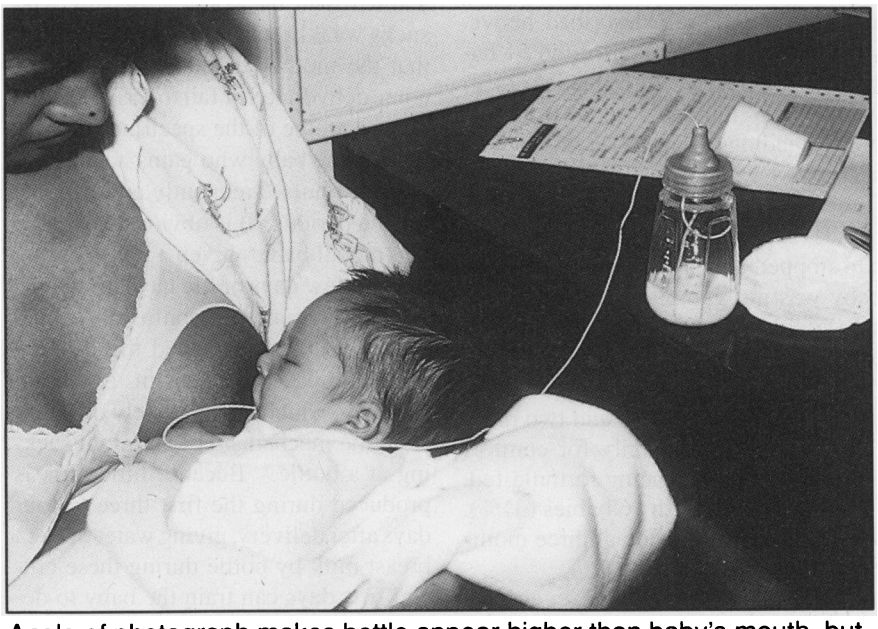
The same techniques can be used for premature babies and babies with other medical problems. Recent studies[17,18] show that premature babies, even with weights as low as 1400 g, can often nurse very well. Most nurseries start bottles until the baby takes the bottle well and then allow attempts at breast-feeding. Unfortunately, a baby who is already taking the bottle well may refuse the breast completely or may not suckle effectively enough to thrive. Once again, the lactation aid can be used to help the baby nurse if necessary.

It should be noted that some breast-feeding problems that are not obviously related to the early introduction of bottles may in fact be related. Sore nipples are often due to incorrect positioning and latching on of the baby. Sore nipples can also be caused by the baby's incorrect suckling.[19]

Conclusion

Physicians and nurses must realize that breast-feeding can be severely disrupted by the early introduction of bottles, that breast-feeding is extremely important to many mothers, and that changes in nursery routines and allowances made for the breast-feeding mother can be important for successful breast-feeding. Avoiding bottles is only one aspect of good breast-feeding management, which includes putting the baby to the breast early and frequently, showing the mother how to properly position and latch the baby to the breast,

Figure 2
Improvised Lactation Aid in Use



Angle of photograph makes bottle appear higher than baby's mouth, but they are at same level. Only under very unusual circumstances should bottle be above level of baby's mouth.

and teaching the mother how to tell whether her baby is nursing well.

The lack of appreciation of the effects of nipple confusion can affect medical research as well. One study,[20] for example, concluded that supplementing babies with formula in the newborn nursery does not affect the duration of breast-feeding and that early introduction of formula merely reflected problems with breast-feeding. The control group in this study, however, received glucose water supplements; there was no control group that received no supplements at all. We believe that the conclusion is not justified and that the proper conclusion should be merely that formula supplementation does not affect breast-feeding more than glucose water supplementation. We further conclude that, until the problem of nipple confusion and breast rejection is considered in studies of breast-feeding, no proper conclusions can be drawn. ■

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