

# Successful Relactation—A Case History

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## Abstract

A healthy, term male infant was weaned at 10 days postpartum because of his mother's illness. The baby was breastfed by his mother's sister, but mostly he was fed with his aunt's expressed milk and with formula by bottle. At 9 weeks postpartum relactation began. Techniques used were a supplemental nursing support system device; frequent suckle at the breast, supplemented by formula given by bottle; breast pumping; domperidone; and support from an International Board Certified Lactation Consultant and family. Problems that appeared during relactation were that at 12 postpartum weeks the baby refused the supplemental nursing system device, and at 12 weeks and 3 days he refused the breast; after 3 weeks of relactation, the milk supply was still low, needing supplementation; and in the first week of exclusive breastfeeding, the baby stopped growing, then he gained weight slowly, and his gain fell down to the 15<sup>th</sup> percentile. Solutions and interventions used to solve the problems were usage of an artificial nipple during breast strike for 3 days and cessation of supplementary formula and frequent suckling at the breast. Four days after relactation started, colostrum appeared (for 2 weeks), and within 1 month from the beginning of relactation the baby was fully breastfed. He was exclusively breastfed until 7 months, and he was continually breastfed until 2 years. His growth was good and was around the 50<sup>th</sup> percentile on the weight/length curve. Thus relactation is possible at 9 weeks postpartum, if the mother's motivation to breastfeed is strong. The best technique to increase milk supply is frequent, short breastfeedings.

## Introduction

**R**ELACTATION MEANS RESTARTING the production of milk after it has stopped. The most frequent causes for untimely weaning are getting off to a bad start in the hospital,<sup>1</sup> the mother's illness and medication,<sup>2,3</sup> the infant's illness,<sup>2,4,5</sup> engorged breast, painful nipples<sup>2</sup> or inverted nipples,<sup>2,3</sup> breast infection or breast refusal,<sup>4</sup> and improper advice in the case of perceived or reliable "low milk supply." In a variety of circumstances the need arises to breastfeed again. Mothers wish to relactate because breastfeeding provides optimal physical and physical growth of the baby,<sup>3,6-9</sup> and it protects against diseases.<sup>2,9,10</sup> In addition, mothers and babies form an inseparable biological unit,<sup>9</sup> and breastfeeding is not only about food but is a resource of love and of a strong baby-mother attachment.<sup>2,9,10,11</sup>

Human milk synthesis and release depend on secretion of the pituitary hormones prolactin (milk-making) and oxytocin (milk-releasing)<sup>12</sup> and on the autocrine control of the breast.<sup>11,13</sup> Prolactin and oxytocin releases are reflex processes and are stimulated by nipple and breast manipulation (such as the baby's nursing, massage, and milk expression). The most effective stimulus for these hormones is the baby suck-

ling on the breast. The autocrine control of the breast is a local control on the rate of secretion, by a protein from milk that inhibits milk production if milk is not removed from the breast. So, emptying the breast by the baby or drainage of the breast by expression (manual or mechanical) decreases the amount of milk inhibiting protein and increases milk secretion.

Relactation is based on the stimulation of prolactin and oxytocin secretion and on the stimulation of local control of the breast, which results in milk production and milk release. Stimulating techniques involve breast stimulation (physiological methods) and the use of milk-stimulating substances called lactogogues (galactogogues). Some authors<sup>4</sup> recommend the use of lactogogues only if adequate physiological methods have been tried for at least 2 weeks and relactation has not occurred. Other authors<sup>3,10,12</sup> recommend from the beginning milk-stimulating substances associated with full stimulation of the breast.

Breast stimulation consists of:

1. Breast self-stimulation by massage<sup>3,5,10</sup> and frequent (every 2-3 hours) manual or mechanical expression (most effective with a double-electric pump).<sup>1,3,5,10</sup>

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FIG. 1. The supplemental nursing system Lactat-Aid.

2. The infant suckling at the breast (most powerful stimulus), which is supposed to reteach the infant to suck<sup>1,3</sup> using supplemental feeding devices<sup>1-5,10-14</sup> (Lact-Aid® [Lact-Aid International, Inc., Athens, TN], supplemental nursing system [SNS]; Fig. 1), supplementing with donor milk or formula until the supply is re-established,<sup>10,15</sup> good latch and position,<sup>3,10,15</sup> a few times breastfeeding without the supplementer,<sup>3,4,11,14</sup> and frequent (10–12 times) day-and-night nursing at least 15 minutes at both breasts.<sup>3,4,12</sup> It is important to monitor the infant's intake by regular weighing, once a week or every 3–5 days,<sup>3-5,11,12</sup> and decide if his or her weight/length gain is appropriate. Avoiding the use of artificial teats is recommended<sup>4,10</sup> because feeding bottles and pacifiers could undermine the success of relactation. Babies can be fed by cups, by syringes, or by finger feeding.

Lactogogues/galactogogues are milk-stimulating substances and could be drugs and non-drugs.

1. The most used drugs are metoclopramide<sup>2-5,10,11,13</sup> and domperidone,<sup>2-5,10,11,13</sup> dopamine antagonists that increase prolactin levels. Other drugs recommended by some authors are sulpiride,<sup>3,4,5,13</sup> thyrotropin-releasing hormone,<sup>3-5,11</sup> chlorpromazine,<sup>3,5,11</sup> human growth hormone,<sup>3,5</sup> theophylline,<sup>3,5</sup> and oxytocin (Syntocinon®, Sandoz Pharmaceuticals, Rockville, MD).<sup>3-5,11,16</sup>
2. Non-drugs are in the majority of cases herbs: fenugreek,<sup>2,3,10,12</sup> caraway,<sup>3</sup> anise,<sup>3,9</sup> fennel,<sup>3</sup> brewer's yeast,<sup>3,4,11,12</sup> dill,<sup>3</sup> and blessed thistle.<sup>2,3,10-12</sup> Acupuncture and hypnosis are also lactogogues.<sup>3</sup>

Because oxytocin production can be affected by the mother's psychological state, support and confidence-building<sup>4</sup> of an experienced International Board Certified Lactation Consultant<sup>2,3,5,10,12,15</sup> and support by the fami-

ly<sup>3,4,11</sup> are also important. Other measures also helpful in relactation are good maternal nutrition and supplementation of fluids and calories (protein).<sup>5,11</sup> The success of relactation depends on some factors related to the infant, like infant age (younger infants are more willing to suck the breast), his or her feeding experience, the breastfeeding gap, or his or her health status, and on factors related to the mother, like previous breastfeeding experience, the condition of her breasts, her general health, cultural influences, and her motivation.<sup>3,4</sup>

Results of studies of relactation reported in the literature show that most women are able to relactate.<sup>4</sup> The chances of relactation are higher within 3 months.<sup>3,11-13,15</sup> Most mothers produce breastmilk within a week,<sup>4,5</sup> and the amount of milk varies from woman to woman.<sup>15</sup> Fifty percent of mothers were able to breastfeed within a month,<sup>4,5</sup> and growth of infants was normal.<sup>4</sup> Each case is unique.

### Case Report

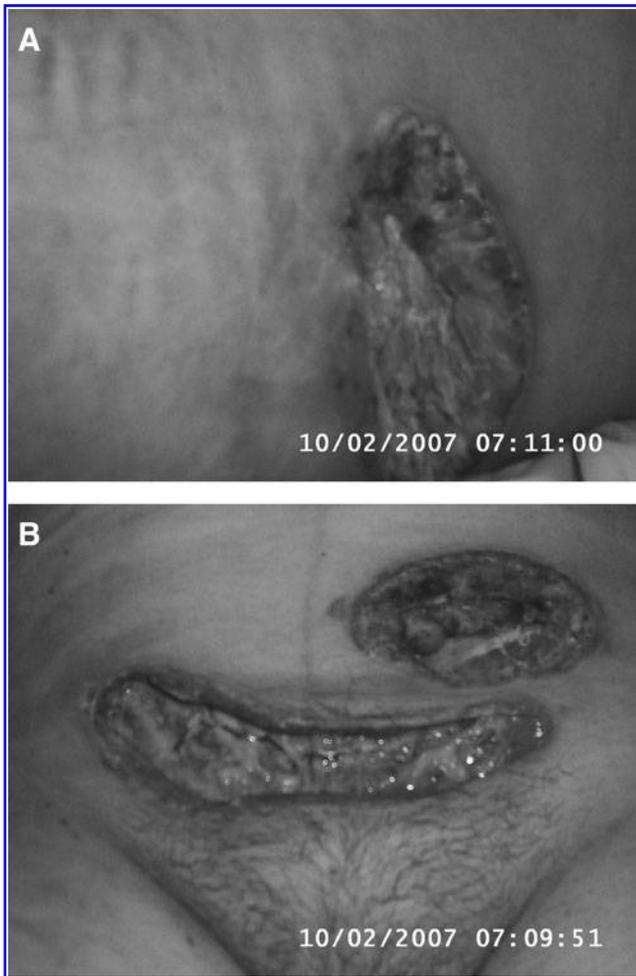
A healthy term male infant was weaned at 10 days postpartum because of his mother's illness. The mother, a second para, 27-year-old woman developed pyoderma gangrenosum, 4 days after emergency cesarean section. Pyoderma gangrenosum is an idiopathic, necrotizing, noninfective ulceration on the skin that develops spontaneously or at the sites of surgical wounds or injections.<sup>17</sup> It is a rare skin disease, described only in a few (two or three) cases after cesarean delivery, often indistinguishable from pyogenic wound infection (necrotizing fasciitis) because of its initial aspects that include leukocytosis, fever, and high C-reactive protein level. The disease is rapidly progressive, especially after surgical manipulation of the skin (surgery is contraindicated), and immunosuppressive therapy is effective.

The mother was initially misdiagnosed as having a hip abscess (Fig. 2A) after infection and necrotizing fasciitis at the site of the cesarean section. Gynecologists made large wound debridements (Fig. 2B) because necrotizing fasciitis is life-threatening. Lactation was stopped, and aggressive antibiotic treatment was initiated. However, skin necrosis accelerated.

After 3 days, appropriate diagnosis was made by a dermatologist, and aggressive therapy with corticosteroids was begun. The evolution was characterized by the improvement of general symptoms and skin lesions. After 24 days, successful abdominoplasty (Fig. 3) was carried out. The mother was fully recovered after 7 weeks of hospitalization, and she was discharged.

The mother had a good breastfeeding experience; she exclusively breastfed her first child for 6 months and breastfed him until 1½ years. She has normal-sized and -shaped breasts and normal nipples. Her second child was at birth 3,600 g and 51 cm long; his Apgar score was 10. His breastfeeding by his mother started at 3 hours after delivery and continued for the first 10 days. After his mother's hospitalization (from day 11) the baby was breastfed for a while by his aunt (his mother's sister), who tandem breastfed her 6-month- and 2-year-old children (Fig. 4). When she started to breastfeed the new baby, a colostrum-like fluid (yellow, thick) was produced and lasted for 1 month.

Most of the time, however, the baby was fed with his aunt's expressed milk or with formula by bottle. After the mother was discharged she was very willing to breastfeed; relactation



**FIG. 2.** (A) Infection and necrotizing fasciitis at the site of the cesarean section. (B) Large wound debridement.

began at 8 weeks postpartum with breast stimulation (massage). Because of the mother's medication for pyoderma gangrenosum (disulfone), breastfeeding was still contraindicated. Relactation really started at 9 weeks postpartum, when the disulfone medication was discontinued.



**FIG. 3.** Abdominoplasty after 24 days.



**FIG. 4.** Tandem breastfeeding by the mother's sister of her own 6-month- and 2-year-old children.

Techniques used for relactation were:

1. Breast stimulation by breast massage; breast pumping with an electric pump three or four times a day for 15–20 minutes at 9–11 weeks postpartum and more frequently (seven or eight times for 10–15 minutes) at 12 weeks postpartum and hand expression; placing the baby at the breast, which began with skin-to-skin contact; bedding-in and suckling at the breast using the SNS lactation device (Fig. 5) filled with formula or the aunt's milk (from 9 to 12 weeks postpartum); and gradually weaning from the supplement (from 9 to 12 weeks postpartum). Also, from 9 to 12 weeks postpartum frequent suckling was implemented at both bare



**FIG. 5.** Bedding-in and suckling at the breast using the supplemental nursing system lactation device filled with formula or the aunt's milk from 9 to 12 weeks postpartum.

breasts every time the baby was willing, mostly in the night three or four times and sometimes before SNS feeding. From 13 weeks postpartum, suckling was more frequent (every half an hour and then every hour). Good attachment and positioning were important. Infant weight was monitored daily, and the mother often applied "test weighing" of the baby.

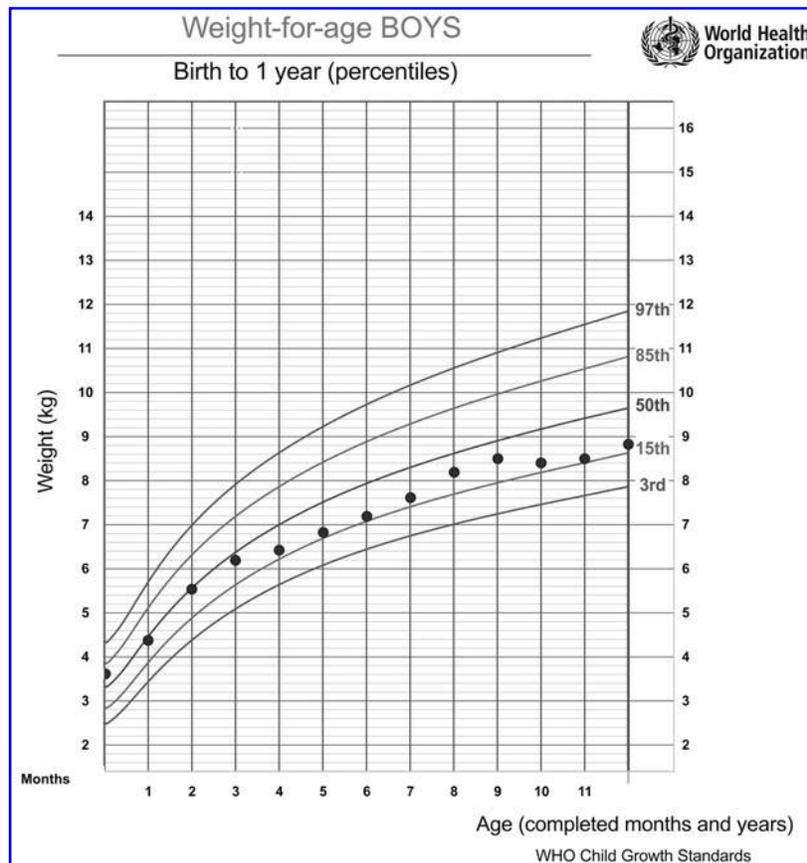
2. Lactogogues/galactogogues. The mother was taking domperidone (3×1 pill/day) and Nutrinatal (Zalmoxian Products, Bucharest, Romania) (composed of anise, dill, and royal jelly) (3×1 caps/day) from 9 to 15 weeks postpartum, but not regularly, as some days she missed taking the pills.
3. Intensive support of an International Board Certified Lactation Consultant, who was a relative of the mother and three or four times in a week visited and encouraged her, evaluated the progress of the process, and proposed solutions for negative situations. Also, the whole family strongly supported her efforts to breastfeed.

Although these lactation-stimulating methods were used, the baby still received bottle feeding until 13 weeks postpartum. Because of the mother's weakness, in the beginning she was unable to breastfeed throughout the entire day. Therefore, her milk, the aunt's milk, or formula was in addition given by bottle twice a day, in the morning and in late evening (from 9 to 11 weeks postpartum). When the baby was sleeping too early during SNS feeding, the mother was concerned that the baby

could lose weight, and therefore she offered supplements by bottle. At 12 weeks postpartum, when the baby refused SNS feeding, the mother often supplemented by bottle.

During relactation some problems occurred:

1. Insufficient stimulation of the breast. Because of the baby's preference for fast milk flow the initial duration of suckling with the SNS was short; the baby was frustrated if the milk flow became slower (from 9 to 10 weeks postpartum). In the next weeks (11–12 weeks postpartum), when he also got some milk from the breast, he was unfortunately falling asleep too early, suckling with the SNS and without eating enough. Thus, he was often supplemented by bottle.
2. Refusal of the breast. At 12 postnatal weeks the baby refused to suck with the SNS, but he was still sucking from the breast supplemented with formula by bottle. At 12 weeks and 3 days, because of a rhinopharyngitis, he refused the breast.
3. Low milk supply. After 3 weeks of relactation milk supply was still low (250–300 mL/day), requiring supplementation.
4. Slow weight gain of the baby. In the first week of exclusive breastfeeding (week 14 postpartum), the baby stopped growing, but he did not lose weight. Then he gained slowly (270 g/month until the age of 4 months) and moved from the 50<sup>th</sup> at the 15<sup>th</sup> percentile on the World Health Organization growth charts (Fig. 6).



**FIG. 6.** The patient's percentile measurements on the World Health Organization weight-for-age growth chart for boys from birth to 1 year.

The following solutions and interventions were applied to solve the problems:

1. For insufficient stimulation of the breast the mother was pumping after every breastfeeding seven or eight times a day (12 weeks postpartum), and from postnatal week 13 the baby was suckling more frequently (10–12 times a day).
2. For breast refusal she used nipple shields (made from latex, the same as the bottle nipples the baby liked) during breast strike, which resulted in acceptance of the breast. Gradual weaning from nipple shields was possible in 3 days.
3. For low milk supply the mother's decision was the cessation of supplementary formula at the age of 13 weeks and frequent suckling at each breast (every 30 minutes or every hour in the beginning) day and night and every time when the baby was willing to suck. She gave up recording the baby's weight before and after eating because it was very stressful, but she continued to monitor the infant's weight daily and then weekly.
4. Growth problems. Regarding growth difficulties, the question arose if this was a real problem, or it was growth according to the 15<sup>th</sup> percentile, a normal growth pattern of the baby (without formula). From 5 months, the baby gained a normal amount monthly but remained on the 15<sup>th</sup> percentile curve (Fig. 7). His growth was good and was then around the 50<sup>th</sup> percentile on the weight/length curve.

## Results

Colostrum (a yellow, sticky fluid) appeared 4 days after relactation started and was produced for 2 weeks. Within 1 month from the beginning of relactation (13 weeks postpartum) the baby was fully breastfed. The baby was exclusively

breastfed until 7 months, and he was continually breastfed until 2 years of age (Fig. 8).

## Discussion

This is not a guide for relactation. It is a case description, with appropriate and inappropriate methods and interventions. Every baby is different (Fig. 9).

Appropriate methods used were:

1. To induce lactation. The usage of the supplemental nutrition device in the beginning was very helpful because the baby was less willing to suckle an empty breast. Frequent pumping is stimulating the breast's local control. In my opinion, lactagogues/galactagogues are not an absolute necessity<sup>4,13</sup> (mothers do not take them with regularity), but they have a good psychological effect besides stimulating lactation.
2. To increase milk supply. Frequent day/night suckling from both breasts was implemented according to the law of "demand and supply." The decision of the mother to stop using feeding bottles and supplements was a courageous action. This shows that, after a while, the mother began to have a strong confidence in her ability to breastfeed her baby.
3. Transition from bottle to breast. Temporary use of nipple shields "trick" the baby to take the breast as being the bottle. The preference of bottle-fed infants for breast shields has been described by other authors as well.<sup>4</sup> A correct latch is necessary.

Inappropriate methods were also used:

1. Bottle feeding. Bottle feeding is producing nipple confusion;<sup>10</sup> the baby could become reluctant to use the breast.<sup>4,11,12</sup> It is better using cups or a syringe for supplements. In real-life situations bottle feeding is

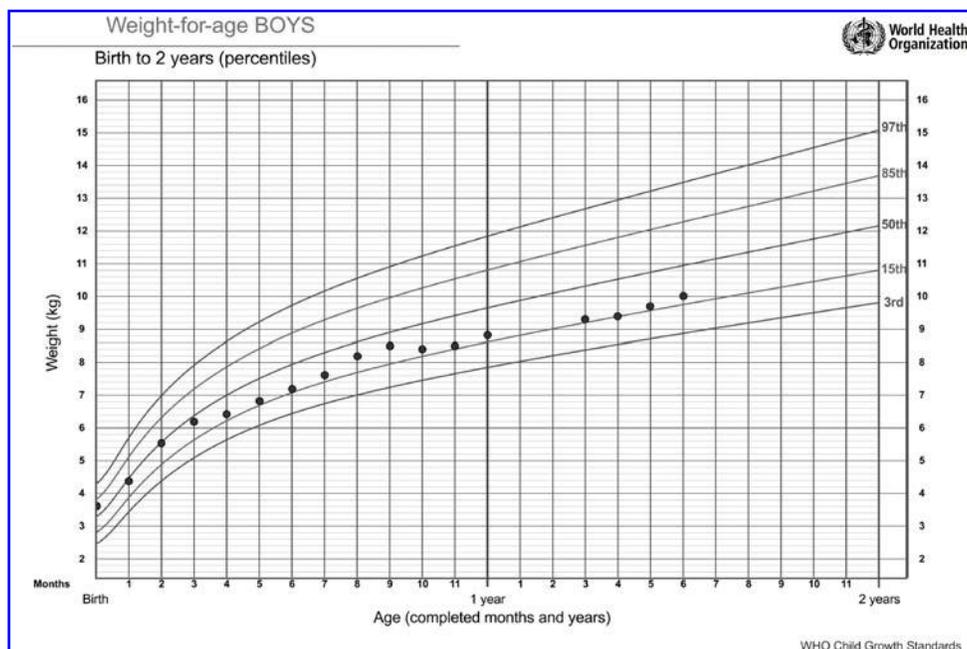
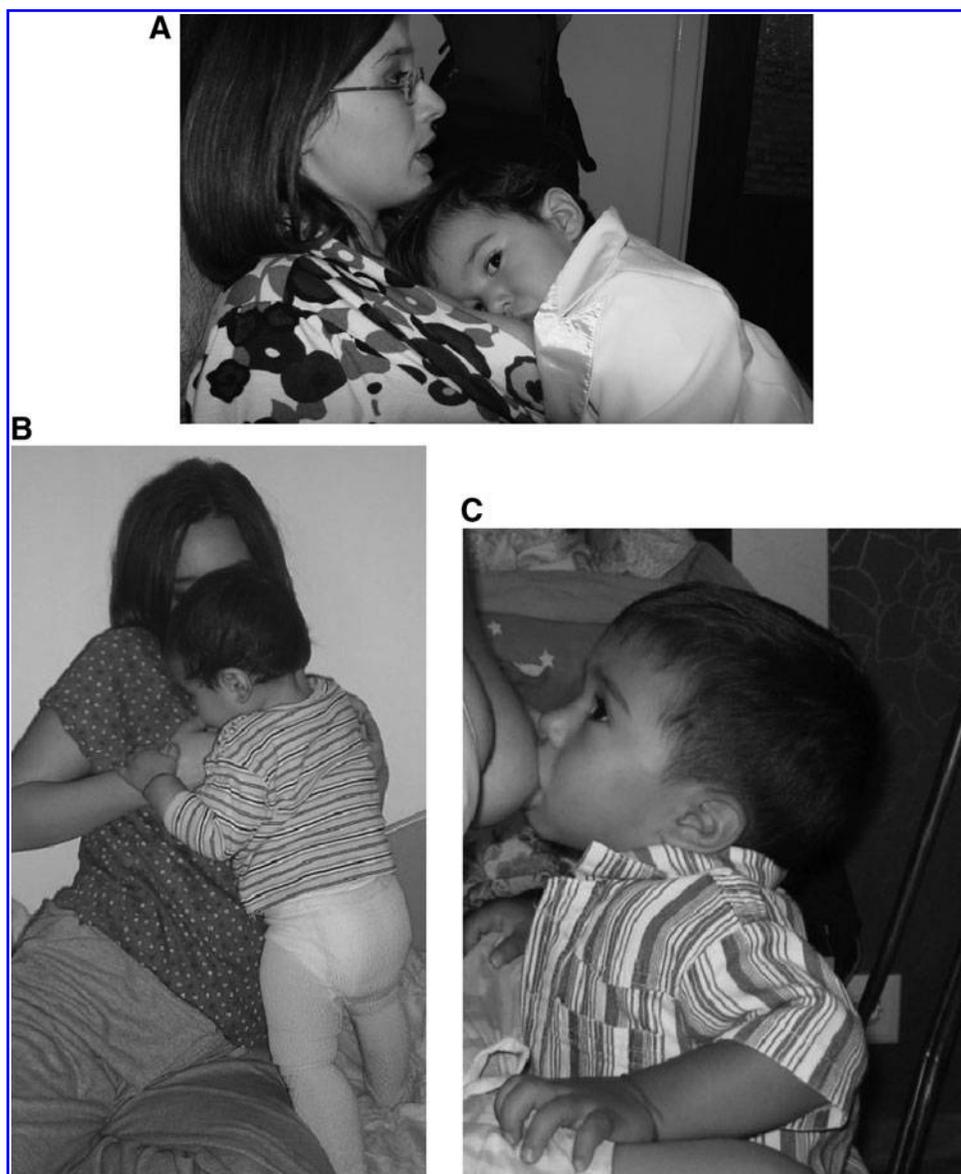


FIG. 7. The patient's percentile measurements on the World Health Organization weight-for-age growth chart for boys from birth to 2 years.



**FIG. 8.** (A–C) Breastfeeding mother and child. Full breastfeeding was resumed by 13 weeks postpartum, exclusive breastfeeding occurred until 7 months, and the boy was continually breastfed until 2 years of age.

often the easiest way to feed an infant when he or she could not be breastfed. In our case, four women took care of the baby during a day, and nobody had time to feed him by other methods. During relactation, transition from bottle to breast was a long process because of the acute problems that appeared (refusal to suck with the SNS, refusal of the breast) and that were stressful for a convalescent mother.

2. Sudden decrease of supplements. Sudden stop of supplementing breastfeeding brings the risk that the baby will not gain weight.<sup>11</sup>

Why was relactation successful? Only a few mothers manage to breastfeed exclusively again. The following facts contributed to success:

1. Breastmilk, in addition to its nutritive function, induces emotional reassurance as well and is worth the effort.

Any amount of milk is therefore welcome. In this case, the mother had a strong desire to exclusively breastfeed again.<sup>12</sup> Her self-confidence and her confidence in the International Board Certified Lactation Consultant (who was familiar to the mother), complemented by good family support,<sup>3,4,12</sup> were decisive to success.

2. Maintenance of a good suckling reflex of the baby by occasional breastfeeding by his aunt.
3. The age of the baby under 3 months (when the hormone level is highest).<sup>3,11,13</sup>

It is curious that, in contradiction to the literature,<sup>5</sup> colostrum-like milk appeared in a tandem breastfeeding woman (the aunt of the baby) 6 months after birth, when she has started to breastfeed her sister's newborn. Also, the long period (1 month) of colostrum secretion is remarkable. The relactating mother had colostrum too after 9 weeks postpartum, which lasted for 2 weeks.

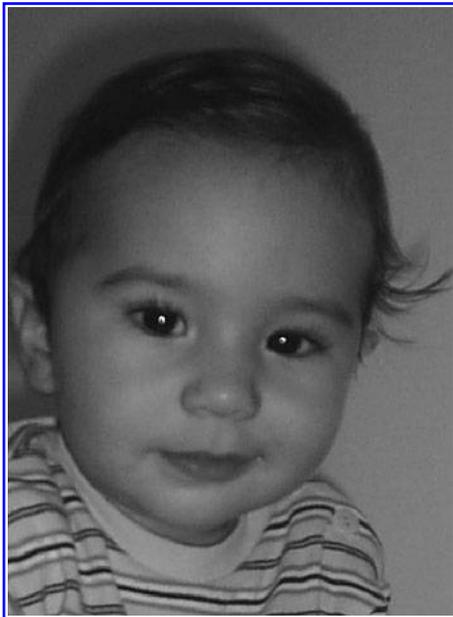


FIG. 9. A successful example of relactation.

### Conclusions

Relactation is possible at 9 weeks postpartum, if the mother's motivation to breastfeed is strong. The best technique to increase milk supply is frequent, day/night, short breastfeedings. Stopping the use of bottles and supplements is a key to success, helping to overcome breast refusal and low milk supply.

### Disclosure Statement

No competing financial interests exist.

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