

## Clinical Report 1 (Acupuncture)

### *A Case of Acupuncture and Moxibustion Treatment for Insufficient Lactation Following Premature Birth*

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#### 【Introduction】

Obstetrics and pediatrics in Japan promote breast-feeding in infancy. "Breast-rearing" is defined as the promotion of infant growth through breast-feeding with breast milk (the mother feeds the infant directly from her own breast). Even if only a small amount of breast milk is fed to the infant, one can speak in this case of breast-rearing, but ideally the proportion of breast milk should be increased. On the other hand, "maternal feeding" refers to feeding breast milk to provide nutrition where administering mother's milk in other ways than direct breast-feeding also covers the definition of maternal feeding. This feeding form is called "maternal feeding" when the proportion of mother's milk is higher than 80%, while at a proportion of less than 20% it is called "artificial (bottle) feeding" and the range from 20% to 80% is labeled "mixed feeding". Accordingly, even if artificial feeding the proportion of mother's milk which is less than 20% still constitutes breast-rearing<sup>1)</sup>.

Yet, while in the "Investigation of infant feeding (2005)" conducted every 10 years by the Ministry of Health, Labor and Welfare<sup>2)</sup> 96% of the pregnant women responded during pregnancy, that they would like to provide maternal feeding, three months after delivery 20% of the mothers did not breast-feed. Further, if the infant's suckling power is weak because of premature birth, making oral feeding impossible, breast-rearing will become difficult.

Here I will report in a case insufficient lactation following premature birth, where the

administration of acupuncture and moxibustion treatment made breast-rearing possible.

#### 【Case】

##### 1. Profile

The patient was a 37-year old woman, height 159cm, weight 59kg, wishing mainly to improve the insufficient lactation after the birth of the second child. Asthma and buckwheat allergy were complications. The asthma the patient had been suffering from during her childhood had been alleviated, but recurred after the birth of her first child and can currently be controlled with inhalation twice daily of Pulmicort. The family history shows that her father had hypertension and her mother arrhythmia.

Following the 20<sup>th</sup> gestational week the patient took tocolytic agents 4 times a day and rested at home, but on the third day of the 35<sup>th</sup> week her waters broke and on the 5<sup>th</sup> day of the 35<sup>th</sup> week she gave birth to a 2210-g boy through vaginal delivery. Both mother and child were later discharged after the usual length of hospitalization.

##### 2. Postpartum course

Since direct breast-feeding immediately postpartum was not possible as shown in Figure 1, she received breast-feeding instructions 30 days after delivery from the practicing midwife S and thus became able to directly breast-feed by the 42<sup>nd</sup> day after delivery. Also, because of insufficient lactation the patient received by the 61<sup>st</sup> day a breast massage from the practicing midwife S, but since this did not promote lactation as expected, she visited this clinic by the 81<sup>st</sup> day after delivery, asking to promote lactation because she strongly wished to provide maternal feeding.

##### 3. Present status

The mother's abdomen on the whole lacked strength, in particular the area around CV4

appeared to be concavity, but the adequate tension of the mother's breasts and engorgement of blood vessels was not observed. Moreover, excessive tension of the neck and back muscles was observed. The infant on the other hand gained about 10g body weight during the week prior to the clinic visit and drank about 280ml of powdered milk, divided into 7 portions over the day. On an acupuncture and moxibustion examination I judged the condition of the mother being a deficiency pattern and recovery after childbirth being doing poorly. Also, the weight gain of the infant appeared to be insufficient. The amount of powdered milk for an infant of the given age of the moon of the first visit would have been 720-960ml, so that I judged the feeding to be mixed feeding with a ratio of 29.2%-38.9% of powdered milk.

#### 4. Acupuncture and moxibustion treatment

The acupuncture and moxibustion treatment had the goal to improve the deficiency pattern of the mother, in other words recover from the fatigue of delivery and increase the amount of lactation. Based on the examination of the mother and the condition of her breasts the amount of powdered milk was decreased over several steps. At first visit I treated the stiffness of neck, shoulder and back muscles, using KI4, KI7, KI9, HT3, PC4, SP4, SP7, inserting needles to a depth of about 5 mm and retaining them there for about 12 minutes. I used 40-mm stainless steel needles with a diameter of 0.16mm (Seirin product). To improve the concavity around CV4, the lack of abdominal tension and promote lactation I applied moxa sticks at KI3, SP6 and CV17 until the lack of abdominal tension and concavity around CV17 had disappeared. I used the moxa sticks "SennenQ Bokyu (moxa sticks)" manufactured by Senefa. Also, I instructed the patient to apply these moxa sticks as self-care at home once or twice daily for about 5 minutes at KI3, SP6 and CV17.

#### 5. Evaluation

I evaluated the following parameter: (1) concavity around CV4 and general abdominal tension as body surface findings, (2) improvement of shoulder and back muscle tension, and (3) the development of an appropriate tension of the breasts and engorgement of the blood vessels, set the weight gain of an average infant of 25-30 g/day as a target, and (4) decreased in the amount of powdered milk. Further, I had the patient weigh the infant's body weight at home and report back, upon which the amount of powdered milk was decreased over several steps.

#### 【Results】(Figure 2)

The acupuncture and moxibustion treatment was performed a total of 5 times. Treatment interval was 3 days between the first and second session and after that once a week.

At the first visit the same amount of powdered milk of 280ml was used and the number of feedings per day decrease by 2 times from the 7 times.

Since at the second visit (3 days after the first visit) still neither an appropriate tension of the breasts and engorgement of the blood vessels nor any other changes in physical condition were observed, I repeated the same treatment given during the first session. From the second session the patient realized an until that point not present increase in lactation resulting in permeation of breast milk into her underwear and a daily weight increase of the infant of 35g. For those reasons the daily amount of powdered milk was decreased 7 days after the first visit to 200ml administered in sitting. Following the 13<sup>th</sup> day after the first visit, however, the amount of powdered milk administered per day was returned to 280ml, because the weight gain of the infant later fell short of the expectations.

On the fourth visit (17 days after the first visit) the concavity around CV4 had decreased in depth

and both a general increase in abdominal tension and an appropriate tension of the breasts and engorgement of the blood vessels were observed. Yet, because these improvements were still insufficient, the same treatment administered during the first session was continued. Also, the mother had observed her child without administering powdered milk, but since the infant's weight decreased, she administered 21 days after the first visit 160ml of powdered milk per day.

By the fifth session (24 days after the first visit) the concavity around CV4 had disappeared, the abdominal wall showed elasticity, the breast an appropriate tension and engorgement of the blood vessels. For this reason the treatment in this clinic was terminated and the patient instructed to continue the self-moxibustion at home. Even after the end of the acupuncture and moxibustion treatment the patient reported the body weight of the infant and continued to adjust the amount of powdered milk.

The amount of powdered milk per day was 38 days after the first visit 160ml and the infant gained about 25g weight per day. When the amount of powdered milk used per day was 140 ml the weight gain of the infant dropped to 18.6g, so that 52 days after the first visit the amount of powdered milk per day was returned to 160ml. The weight gain of the infant stabilized as a result of feeding 160ml of powdered milk per day. I concluded that the mother was capable of continuing the management independently and we agreed to terminate the treatment, but she would continue to feed the infant powdered milk once a day.

#### **【Discussion】**

Lactogenesis and lactatin are according to "Standard Science of Obstetrics and Gynecology"<sup>3)</sup> a processes where "postpartum stimulation of the nipples by suckling releases prolactin, which then promotes lactation. The prolactin secretion is

highest immediately after delivery and gradually decreases after that, but each time the nipples are stimulated temporarily increases again, resulting in the establishment of periodic lactation upon suckling by the ninth day postpartum independent of the prolactin or oxytocin concentration. After a 3-month postpartum period the prolactin value settles to the same level as in non-lactating women and even after suckling increases are no longer observed. Promotion of sufficient lactation requires adequate sleep, avoidance of mental stress and the performance of breast massage." On the other hand, the Ministry of Health, Labor and Welfare reported "Examination of fluctuations in the proportion of infant feeding methods (Figure 3) shows, that 1 month postpartum 42.5% used maternal feeding, 52.5% mixed milk feeding and 5.1% artificial feeding. Three months postpartum the ratio of maternal feeding had decreased by 4.4% to 38.0%, while the ratio of mixed milk feeding had fallen by 11.5% to 41.0%. However, the ratio of artificial feeding had increased by 15.9% to 21.0%. This indicates insufficient lactation and an increase of mothers not feeding the infants with mother's milk. It also reveals that during pregnancy mothers may wish to breast-feed their children, but during the lactation period this may in reality not work out so well.

In this case the patient took tocolytic agents during the pregnancy, but based on the premature delivery I surmise that her body was not ready to maintain the pregnancy until full term (from the 37<sup>th</sup> GW to less than the 42<sup>nd</sup> GW). Also, the first visit for acupuncture and moxibustion treatment was on the 81<sup>st</sup> day after delivery and the treatment was completed on day 103 after delivery. The condition of mother and breasts, the time of lactation onset had already reached the stage of non-lactating women, so that it can be anticipated that without treatment she would gradually have switched to artificial nutrition.

Searching for reports about insufficient lactation in magazines about Chinese medicine I found only one report about supporting lactation while hospitalized after full-term delivery by Fujiwara et al.<sup>4</sup>.

Causes for insufficient lactation include (1) decreased lactation volume because of low milk production, (2) sufficient production, but problems with the milk discharge, (3) poor holding of the baby, (4) the infant cannot take hold of the nipple because of inverted nipples, or (5) there is a problem of how the infant suckles<sup>5</sup>. In the present case (1), (4) and (5) conceivably could have caused the insufficient lactation. Again, (6) decreased suckling drive, (7) suckling difficulties and (8) exhaustion of the mother may be factors impeding direct breast-feeding. Suckling difficulties include (a) malformation of the nipples (sunken, flat, hypertrophic hypotrophic), (b) anomalies of the breasts (breast tension, secretion), (c) medical conditions like cleft-palate), (d) functional factors like immature infant, low-birth-weight newborn and (e) medical factors<sup>8</sup>. The items (6), (8) and a., b. and d. applied in the present case.

Tatsunami et al. reported about the effects of combined Ringheaded thumbtack needles and breast massage<sup>6</sup>, while Fujiki et al. reported about the effects on lactation in a SSP treatment group compared with an untreated group<sup>7</sup>, where either of these reports had been limited to a period of one month from immediately after delivery. Yano used the following acupoints GV20, LU1, LU2, CV6, CV12, CV17, ST18, ST36, SP6, LR3, SI11, BL17, BL18, BL20<sup>5</sup>, Tatsunami et al. used LU1, CV17, ST36 etc.<sup>6</sup>, while Fujiki et al. listed LU1, ST18, CV17, SI11, GV12, LU10<sup>7</sup>. Common acupoints are LU1 and CV17, but the reports did not detail the reactions at the acupoints. In my case, however, I chose and treated CV17, because I felt a depression there (state of deficiency) upon palpation and also treated this point for postpartum convalescence of

the mother. With the convalescence of the mother and disappearance of the depression at CV17 the mother started to provide maternal feeding and an appropriate tension of the breasts and engorgement of the blood vessels were observed. The acupuncture and moxibustion treatment promoted lactation in spite of the prolactin dropping to a level similar to that of non-lactating women. Achieving improvement of the postpartum exhaustion of the mother the treatment thus conceivably led to maternal feeding.

The first author has a license as a midwife and as such examined the condition of the mother and her breasts, adjusting the amount of powdered milk several times, but as Figure 2 shows, the infant did not reach the target weight gain line. Adjustment of the amount of powdered milk, not only in this particular case, may determine, whether the infant's weight gain will reach the expected level or not. Yano recommends that pregnant women should receive appropriate guidance from a midwife already during pregnancy. He recommends that the guidance by the midwife should be continued postpartum and a combination with acupuncture and moxibustion treatment would be desirable<sup>5</sup>. As Yano already pointed out, cooperation with the midwife during acupuncture and moxibustion treatment results in a still more appropriate treatment. Moreover, receiving acupuncture and moxibustion treatment already during pregnancy helps to prepare the expecting mother's body and may guide the women towards a normal delivery. A normal delivery reduces the physical burden and leads to a good start of the child rearing. Reducing the physical burden associated with pregnancy, delivery, child rearing by acupuncture and moxibustion treatment helps mothers to enjoy childcare and the author would like to recommend using acupuncture and moxibustion treatment for many pregnant women.

**【Conclusion】**

In a woman with insufficient lactation after giving prematurely birth in the 35<sup>th</sup> GW 5 acupuncture and moxibustion treatments starting on the 81<sup>st</sup> day after delivery and reduction in the amount of powdered milk made maternal feeding possible.

**References**

1. Toshiaki Shimizu: The definition of maternal feeding. Nutrition Committee – Report by the newborn committee about the breast milk promotion project. Journal of the Japan Pediatric Society, 115(8):1364-1367, 2011
2. <http://www.mhlw.go.jp/houdou/2006/06/h0629-1.html>
3. "Standard Science of Obstetrics and Gynecology". Takashi Okai, Takuya Ayabe, Igaku Shoin, 2011
4. Yoko Fujiwara, Keiko Tori, Chikako Hisatomi, Akiko Uchino, Minoru Uchino: About support for early phase hypolactation. Journal of the Saga Department of the Japan Society of Maternal Health, 15(1), 25-27 2012
5. "Ladies Acupuncture and Moxibustion", Tadashi Yano, Ishiyaku Pub, Inc., 251-257, 2006
6. Takako Tatsunami, Tadashi Yano, et al.: Investigation of Tsubo (acupoint) stimulation treatment to promote lactation and its effects, Japan Society of Maternal Health, 38:396-402, 1997
7. Akira Fujiki, et al.: SSP treatment for patients with postpartum hypolactation, Oriental medicine and the pain clinic, 15:1013, 1985
8. "Nursing for Maternal Feeding", Manami Matsubara, Minako Yamanishi, MEDICUS SHUPPAN, Publishers Co., Ltd., 2003

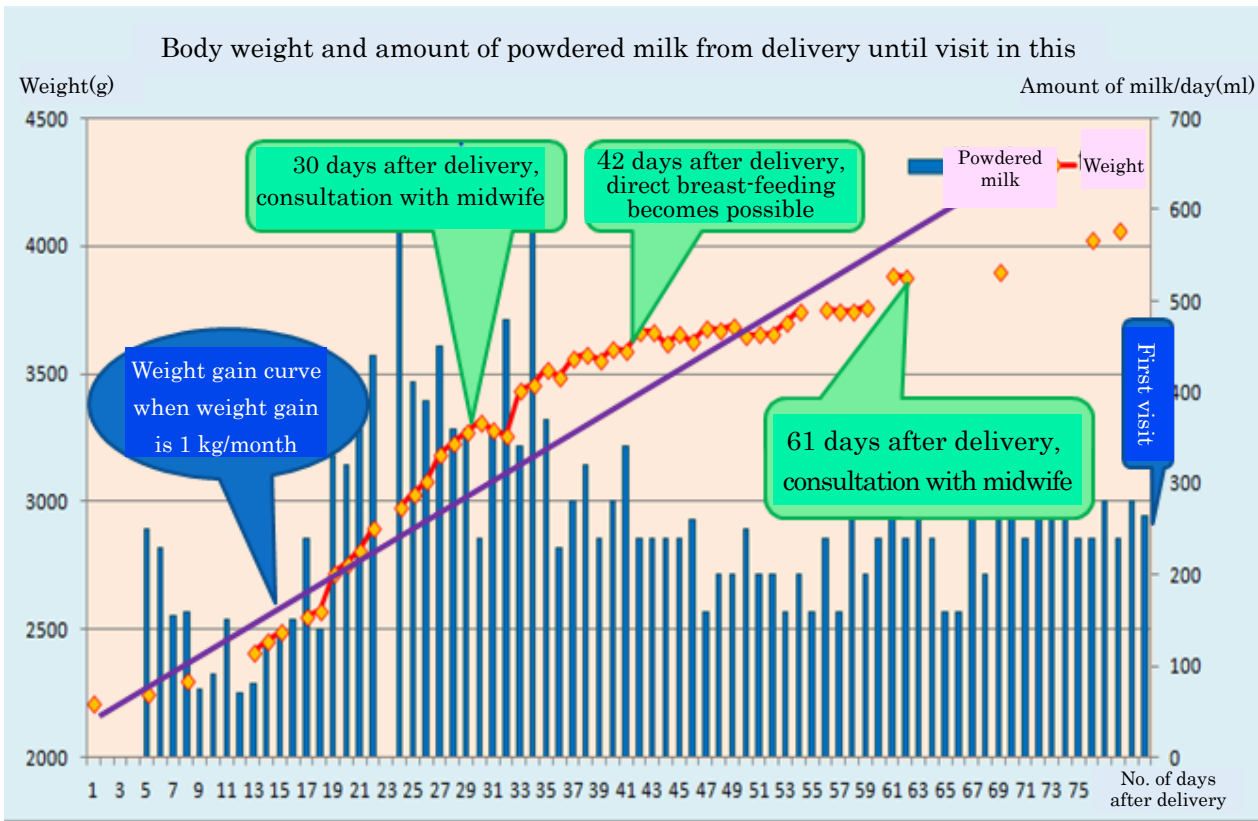


Figure 1 Present illness

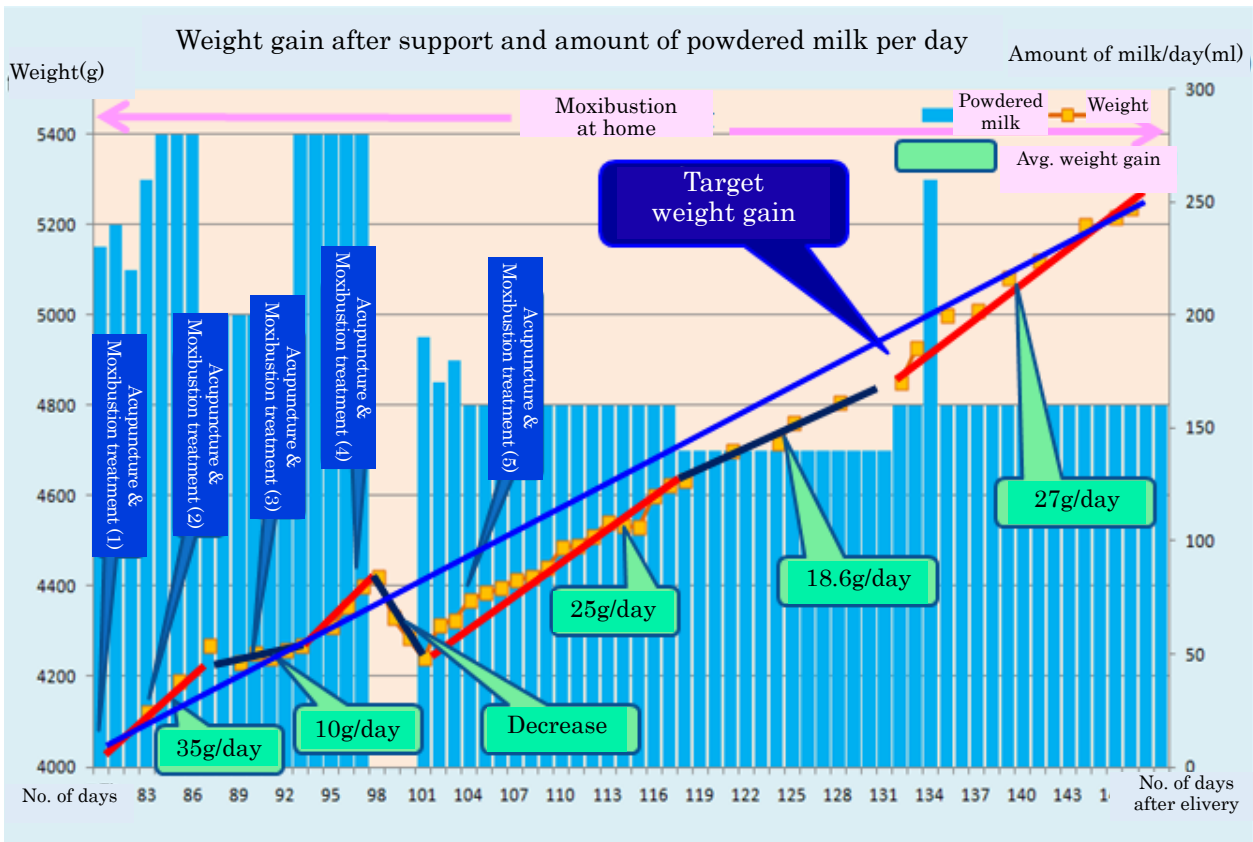
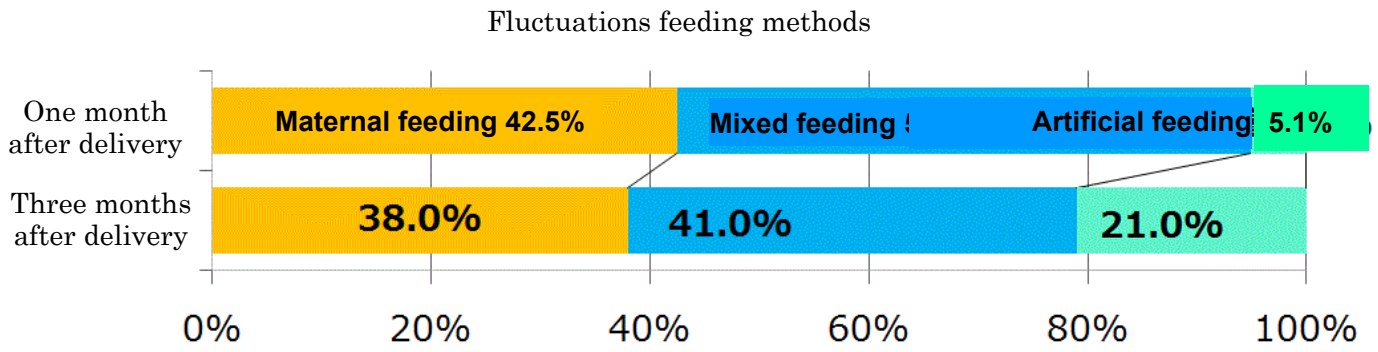


Figure 2 Course



Source: Ministry of Health, Labor and Welfare "Investigation of infant feeding in 2005"

Figure 3 Fluctuations in infant feeding methods