

### BREASTFEEDING IN BABIES DELIVERED BY CESAREAN SECTION

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#### ABSTRACT

*One hundred mothers undergoing cesarean section and their infants were studied regarding various factors affecting the establishment of breastfeeding during their stay in hospital (mean =  $11 \pm 3.6$  days). Nearly two-thirds (65.7%) of mothers who underwent elective cesarean section, and 62.8% of mothers who received spinal anesthesia were breastfeeding exclusively; while only 53.8% mothers who had undergone an emergency cesarean section and 28.6% who received general anesthesia were exclusively breastfeeding their neonates. All 9 mothers who initiated breastfeeding within 12 h of the surgery were practicing total breastfeeding. In contrast only 5.8% of mothers who initiated breastfeeding after 96 hours, were exclusively breastfeeding their neonates. Total breastfeeding was more frequent (86.8%) in newborn infants who received prelacteal feeds by spoon as compared to those who received by feeding bottle (33.3%). Babies separated from the mothers in hospital were less likely (35.5%) to be on total breastfeeding as compared to those (68.1%) who were not separated from their mothers. This study suggests that for proper establishment of breastfeeding in mothers undergoing cesarean section an*

The immunological and nutritive values of breastmilk are ideally suited for neonates. A trend of increasing cesarean section has been noted during the last two decades. It is reported that cesarean section delivery induces lactation failure(1-5). However, there are other reports which claim that lactation failure is not significantly associated with methods of delivery(6-11). The present study was, therefore conducted to analyse different factors affecting establishment of breastfeeding in babies delivered by cesarean section.

#### Material and Methods

This study was conducted in U.I.S.E. Maternity Hospital affiliated to G.S.V.M. Medical College, Kanpur during April 1991 to June 1992. A total number of 100 cesarean mothers with live infant pairs were studied by random sampling. The duration of study in each case was from delivery of baby till discharge from hospital.

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*elective procedure under spinal anesthesia promotes, early initiation of breastfeeding. Early initiation of breastfeeding has highly significant correlation with establishment of breastfeeding while separation of babies from mothers discourages breastfeeding.*

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**Key words:** Cesarean section, Breastfeeding, Prelacteal feed.

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All except 12 babies were roomed in with mother soon after birth. Two babies who have imperforate anus were admitted in surgical ward for colostomy. Ten babies were admitted in the premature baby unit due to difficult resuscitation, birth asphyxia, meconium aspiration syndrome and respiratory distress, etc. Between the age of 3-5 days, 19 babies were admitted in the unit for management of hyperbilirubinemia. The mean duration of separation of the mother and neonates was  $5.7 \pm 0.9$  days. The mean birth weight of the neonates was  $2.6 \pm 0.4$  kg and the mean gestation age was  $38.6 \pm 0.8$  weeks.

All mothers at the time of first assessment were told that "Breast is Best" and instructed to breastfeed their babies. Each infant's feeding method was categorized into one of the following feeding groups by using the amount of breast and formula feeding used:

[A] *Total breastfeeding*: Breastfeeding is the only form of caloric nutrition given to the baby (no animal or powder milk to the baby).

(i) *Exclusive breastfeeding*: Mother was giving only breastmilk, no water, vitamins or any other medicines. Drugs given during illness were not considered.

(ii) *Almost exclusive breastfeeding*: Mother was supplementing breastfeeding with water, vitamins or medicines.

[B] *Partial breastfeeding*: Mother giving both breastmilk and top milk to her baby.

(i) *Substantial breastfeeding*: Mother was mostly breastfeeding but also giving artificial feeds 1-3 times a day.

(ii) *Token breastfeeding*: Mother was giving top feeding mostly, and breastfeeds only 1-3 times a day.

[C] *Top feeding*: Mother was giving top feeds only and no breastfeeding.

Effect of factors including type of surgery, anesthesia, time of first breastfeeding, mode of administering prelacteal feeds and separation of baby from the mothers was studied in response to pattern of breastfeeding.

A detailed interview schedule was prepared to collect information. This was recorded on a pretested proforma. This was explained to the mother prior to interview so as to allay apprehension and to get maximum co-operation from her. Chi square was applied for interpretation of results.

## Results

The mean age and parity of mothers was  $25.4 \pm 4.27$  and  $2.0 \pm 1.11$ , respectively; 44% mothers were primipara, 25% para-2, 21% para-3, 8% para-4 and 2% para-5. According to modified Prasad(12) classification, 4%, 10%, 33%, 40% and 13% cesarean mothers belonged to the 1st, 2nd, 3rd, 4th and 5th socio-economic class, respectively. Nearly a quarter (26%) mothers were illiterate and 10% were literate, 8% mothers had passed primary education and 20%, 9% and 11% had passed the junior high school, high school and intermediate respectively. Sixteen per cent mothers were graduate or postgraduate. Ninety five per cent were housewives. Majority (67%) belonged to the urban area. Forty three per cent mothers had regular antenatal checkup, 42% mothers had received irregular antenatal care and 15% mothers did not receive any antenatal care. Breast examination was done in only 4.7% mothers who received antenatal care.

The cesarean section was done as an emergency procedure in 65% while in 35% it was elective. A vast majority (86%) of mothers received spinal and the rest received general anesthesia. All the mothers complained of pain in stitches and 60% had atleast one episode of fever in the post-operative period.

Only 5% mothers gave breastfeed as the first feed. Prelacteal feeds included powder milk (69.5%), cow's milk (10.5%), glucose water (13.7%), plain water (25.3%) and honey (10.5%). Prelacteal feeds were administered to 95 neonates by feeding bottle (63.2%), spoon (40%) and by finger (10.5%); more than one method was used in many. Breastfeeding was initiated in 1-2 hours, 2-12 hours, 12-24 hours, 24-48 hours, 48-72 hours, 72-96 hours and more than 96 hours by 3%, 6%, 11%, 19%, 23%, 21% and 17% mothers, respectively. The commonest reason given by mothers for delay in initiating breastfeeding was sedation and pain in stitches (100%). Other reasons were administration of intravenous fluids (83%), no milk secretion (82%), traditional (not to give colostrum for 2-4 days (69%), delayed rooming in (12%) and essential complete bed rest (13%).

Nearly, thirteen per cent mothers did not know how to gauge inadequacy of milk, 84.2% felt that the baby kept crying or did not sleep even after breastfeed (80%). Seventy (73.7%) out of 95 mothers having inadequacy of breastmilk gauged it with frequency of micturition of baby. A total of 16%, 42%, 30% and 10% mothers were practising exclusive breastfeeding, almost exclusive breastfeeding, substantial breastfeeding and token breastfeeding at the time of discharge from hospital. Only 2% mothers were giving top feed at the time of discharge.

Thirteenth (81.2%) out of 16 graduate

and postgraduate mothers were practicing total breastfeeding while others practicing total breastfeeding were 45 (53.6%) out of 84 at the time of discharge from hospital ( $p > 0.05$ ). Total breastfeeding was more common in mothers of upper socio-economic status (75% of Class-I, 80% of Class-II and 66.7% of Class-III) than lower socioeconomic class mothers (47.2%) ( $p > 0.05$ ).

Nearly, two third (65.7%) of mothers who underwent elective cesarean section and 62.8% of mothers who received spinal anesthesia were practicing total breastfeeding. Babies separated from their mothers were less (35.5%) as compared to those not separated (68.1%) on total breastfeeding. Total breastfeeding was more frequent (86.8%) in neonates who received prelacteal feeds by spoon as compared to those (13.3%) who were bottle fed (*Table I*). Total breastfeeding was more (95%) when it was started within 24 hours as compared to those in whom breastfeeding started after 24 hours (48.8%) (*Table II*).

## Discussion

One is confronted with several problems in establishing breastfeeding in mothers who have undergone cesarean section. However, these problems should be tackled by constant supervision and family support to the mother in establishing breastfeeding during her stay in hospital. In the present study, 98% mothers were practicing breastfeeding at the time of discharge from hospital.

Prelacteal feeds is a common practice in India. Kushwaha *et al.* (13) reported that 66.5% mothers gave prelacteal feeds by means of cotton swab, while 21.9% used spoon and bowl, 10.3% used bottle and 1.3% used their finger. Datta (8) found feeding bottle as the only means of administering prelacteal feeds. In the present study total breastfeeding was

**TABLE I—Relationship of Type of Surgery and Anesthesia, Separation of Baby and Mode of Administration of Prolactal Feeds with Pattern of Breastfeeding**

Variables	Total breastfeeding		Partial breastfeeding		No breastfeeding		Total		p
	No.	%	No.	%	No.	%	No.	%	
Elective	23	65.7	12	34.3	0	0.0	35	100.0	> 0.05
Emergency cesarean	35	53.8	28	43.1	2	3.1	65	100.0	< 0.05
General anesthesia	04	28.6	09	64.3	1	7.1	14	100.0	< 0.001
Spinal anesthesia	54	62.8	31	36.0	1	1.2	86	100.0	< 0.01
No separation of baby	47	68.1	22	31.9	0	0.0	69	100.0	< 0.001
Separation of baby	11	35.5	18	58.0	2	6.5	31	100.0	
Bottle feeding	20	33.3	38	63.4	2	3.3	60	100.0	< 0.05
Spoon feeding	33	86.8	05	13.2	0	0.0	38	100.0	< 0.001

**TABLE II—Relationship of Initiation of Breastfeeding in Cesarean Mothers and Pattern of Breastfeeding**

Time of first breastfeeding (in hours)	Total breastfeeding		Partial breastfeeding		No breastfeeding		Total		p
	No.	%	No.	%	No.	%	No.	%	
1 - 2	3	100.0	0	0	0	0	3	100.0	
2 - 12	6	100.0	0	0	0	0	6	100.0	
12 - 24	10	90.9	1	9.1	0	0	11	100.0	< 0.05
24 - 48	16	84.2	3	15.8	0	0	19	100.0	< 0.05
48 - 72	13	56.5	10	43.5	0	0	23	100.0	> 0.05
72 - 96	9	42.8	12	57.2	0	0	21	100.0	> 0.05
> 96	1	5.8	14	82.6	2	11.6	17	100.0	> 0.05

Initiation of breastfeeding within 24 hours -  $p < 0.001$ .

Initiation of breastfeeding after 1 day -  $p > 0.05$ .

more in those who received prelacteal feeds by spoon as compared to those who received prelacteal feeds by feeding bottle. Therefore, prelacteal feeds if at all given, should be given by spoon not by feeding bottle in order to promote and support breastfeeding.

Separation of babies from their mothers is a wrong practice and should not be done routinely as it has an adverse effect on establishment of breastfeeding. Total breastfeeding was more (68.1%) in those babies who were never separated from their mothers than in those (35.4%) who were separated

from their mothers. However, other workers found no relationship between establishment of breastfeeding and separation of babies from mothers(8,10,11).

Emergency cesarean section is generally done in complicated and unbooked cases and leads to a higher incidence of poor outcome for baby and mother. Probably due to this, total breastfeeding was more common in mothers who had an elective cesarean section (65.7%) as compared to those undergoing emergency cesarean (53.8%) section. Victora *et al.*(14) reported similar observations. Spinal anaesthesia is associated with higher incidence of successful breastfeeding than general anaesthesia(14,15) and this finding has been confirmed by the present study.

Early initiation of breastfeeding is associated with higher incidence of successful breastfeeding(2,7,16). However, other workers(10,11), found no such association. Our study showed a gradual decrease in total breastfeeding with later initiation of breastfeeding. All mothers who started breastfeeding within 12 hours after delivery were practicing total breastfeeding.

Problems were encountered in cesarean mothers as regards establishment of breastfeeding in the present study. Kapil *et al.*(11), however, showed that on fifth day all the 60 mothers were practicing breastfeeding. In the present study more successful breastfeeding was observed in mothers who had elective cesarean section, spinal anaesthesia and in those who started breastfeeding early as compared to emergency cesarean section and general anaesthesia. Separation of babies and prelacteal feeds by feeding bottle also had an adverse effect on the establishment of breastfeeding. It is concluded, that in order to protect, promote and support breastfeeding we must adopt

Doctor's Declaration of Breastfeeding and Innocente Declaration and establish baby-friendly hospitals(17-20). We, therefore, recommend that for establishment of early breastfeeding in a baby elective cesarean section, spinal anesthesia, early rooming and avoidance of bottle feeding should be emphasized.

## REFERENCES

1. Arora AK, Gupta BD. Cesarean section and lactation failure. *Indian Pediatr* 1987, 24: 954.
2. Lucchini R, Nanei S, Tozzi C, Valletti F, Badii R, Ferraro M. Breastfeeding in Rome Provincia 1982. *Pediatr Med Chir* 1984, 6: 655-658.
3. Samuel SE, Margan S, Schoen EJ. Incidence and duration of breastfeeding in health maintenance organization population. *Am J Clin Nutr* 1985, 42: 502-510.
4. Vestemark V, Hogdal CK, Birch M, Plenov G, Toftager-Larsen K. Influence of mode of delivery on initiation of breastfeeding. *Eur J Obstet Gynecol Reprod Biol* 1991, 38: 33-38.
5. Chen Y. Factors associated with artificial feeding in Shanghai. *Am J Public Health* 1992, 82: 264-266.
6. Ounsted MK, Hendrick AM, Mutch LM, Caldar AA, Good FJ. Induction of labor by different method of primiparous women: some perinatal and postnatal problems. *Early Hum Dev* 1978, 2: 227-239.
7. Siegismund K, Justus B, Schollbarg K. Behavior of prolactin, estradiol and ACTH in maternal blood in delivery by cesarean section. *Zentralbl Gynecol* 1986, 108: 212-219.
8. Datta T. Breastfeeding in cesarean babies. *Indian Pediatr* 1990, 27: 86-87.
9. Kearney MH, Cronenwett LR, Reinhardt R. Cesarean delivery and breastfeeding outcome. *Birth* 1990, 17: 97-103.

10. Gathwala G, Narayanan I. Delayed contact and breastfeeding. *Indian Pediatr* 1992, 29: 155-159.
11. Kapil U, Kaul S, Vohra G, Chaturvedi S. Breastfeeding practices amongst mother having undergone cesarean section. *Indian Pediatr* 1992, 29: 222-224.
12. Chandra J, Ahmad SH. "Prasad" social classification of Indian families; updated. *Indian Pediatr* 1987, 24: 689-690.
13. Kushwaha KP, Mathur GP, Prakash O. Infant feeding practices of periurban area of Gorakhpur. *Indian Pediatr* 1987, 24: 899-900.
14. Victora CG, Hutty SR, Barros FC, Vaughan JP. Cesarean section and duration of breastfeeding among Brazilians. *Arch Dis Child* 1990, 65: 632-634.
15. Lie B, Juul J. Effect of epidural vs general anesthesia on breastfeeding. *Acta Obstet Gynecol Scand* 1988, 67: 1207-1209.
16. Singh O. Early ambulation after spinal anesthesia in cesarean section. *J Obstet Gynec India* 1990, 40: 464-466.
17. Mathur GP, Mathur S, Chitranshi S. In support of breastfeeding. *J Gen Med* 1992, 4: 43-46.
18. Mathur GP. Doctor's declaration for breastfeeding. *J Trop Pediatr* 1990, 36: 199.
19. WHO/UNICEF. Innocente Declaration on the protection, promotion and support of breastfeeding. Florence, Italy, August 1, 1990.
20. WHO/UNICEF. The Baby-Friendly Hospital Initiative Action Folder 1211. Geneva 27, Switzerland 1989.

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## NOTES AND NEWS

### FIFTH ANNUAL STATE CONFERENCE IAP, BIHAR

The Fifth Annual State Conference of Indian Academy of Pediatrics, Bihar Branch is to be held on *4th and 5th December, 1993* at S.N.T.I., Jamshedpur.

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