

## The Resumption of Postpartum Ovulation and Initiation of Menstruation in Chinese Women (A Preliminary Study)

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### SUMMARY

*Ninety-nine women were studied for resumption of ovulation after childbirth for six weeks. We found only one case that showed evidence of ovulation which occurred as early as thirty-seventh postpartum day. This case took Bromocriptine for suppression of lactation. Cases were divided into 5 groups i.e. breast feeder; bottle feeding without medical ablactation; ablactation with Bromocriptine; ablactation with Bromocriptine plus Ablacton and ablactation with Ablacton only. The resumption of menstruation in those groups were on the 72.9; 55.7; 56.8; 66.4; and 74.4 postpartum day respectively. In this study, Bromocriptine group seemed to ovulate earlier than the rest, and the use of Ablacton for ablactation seemed to postpone resumption of menstruation after childbirth.*

*Key words: postpartum, ovulation, menstruation.*

For the sake of birth control, the time of ovulation and initiation of menstruation after childbirth are very important factors<sup>(1-6)</sup>. Sharman said that he could not find ovulation before first six weeks<sup>(7)</sup>, but Cronin reported 7% of women who did not lactate ovulated before the 42nd day<sup>(5)</sup>. Bromocriptine is widely and effectively use for suppression of lactation. It suppresses prolactin level and at the same time promotes ovulation. Therefore, resumption of ovulation and return of menstruation may be earlier than used to be.

### MATERIAL AND METHODS

At the six week postpartum check-up, endometrial biopsy was obtained with a vacuum aspiration syringe and Karman plastic tube. One hundred and twelve women were studied, of which 13 patients were lost for further follow-up. The remainder (99 patients) were divided into five groups—breast feeder (29), bottle feeding without medical ablactation (23), ablactation with Bromocriptine (25), ablactation with Bromocriptine plus

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**Table 1. The Cases of Nursing Conditions**

Breast feeder	29
Nil	23
Bromocriptine	25
Bromo. + Abl.	12
Ablacton	10
Total	99

Nil: bottle feeding without medical ablactation

Ablacton (12)\*, and ablactation with Ablacton only (10). The mean age was  $28.3 \pm 3.7$  years, and the mean prepregnancy cycle length was  $30.0 \pm 8.6$  days. There were no complication during puerperal period (Table 1). The statistical difference between the groups on each item was evaluated by a Student's t test.

## RESULTS

There was one case whose endometrial biopsy revealed a picture of secretory phase in the puerperal period. She took Bromocriptine for suppression of lactation.

The remainder (98) were in proliferative phase. The breast feeder whose mean age was  $28.8 \pm 3.0$  years; the mean prepregnancy cycle length was  $31.0 \pm 3.7$  days, the mean parity was 1.6, and the mean time for the return of menstruation was  $72.9 \pm 27.0$  days. The longer duration of lactation, the later the return of menstruation (Table 2). Of this group 10.3% had resumed menstruation by 42 days, 27.5% by 60 days, and 79.2% by 90 days.

In the bottle feeding without medical ablactation group, the mean age was  $27.7 \pm 3.2$  years, the mean prepregnancy cycle length was  $30.4 \pm 3.3$  days, the mean parity was 1.4, and the mean time for the return of menstruation was  $55.7 \pm 15.5$  days. Of these patients 17.4% had resumed menstruation by 42 days, 56.5% by 60 days and 100% by 90 days.

In Bromocriptine group, the mean age was  $28.2 \pm 4.1$  years, the mean prepregnancy cycle length was  $34.8 \pm 10.6$  days, the mean parity was 1.5, and the mean time for the return of menstruation

**Table 2. The Relation between Duration of Lactation and First Postpartum Menstruation in 29 Lactators**

Duration of lactation	0.5 month	1 month	2 months	3 months	4 months
No. of cases	8	9	4	3	5
Mean time of first menstruation (days)	49.4*	69.8*	71.2 <sup>#</sup>	108.3 <sup>#</sup>	96.4
Statistic significance	*P < 0.01		<sup>#</sup> P < 0.05		

\*Ablacton, Schering: estradiol benzoate 5mg, estradiol valerate 8mg, norethisterone acetate 20mg and testosterone enanthate 180mg in oil base for single intramuscular injection.

<sup>#</sup>Bromocriptine (Parlodel), Sandoz: 2.5mg Bid for 15 days.

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**Table 3. Time of First Postpartum Menstruation in 99 Cases by Nursing Condition**

	No. (%) of cases who menstruated on day:					Total
	0 - 42	43 - 60	61 - 90	91 - 120	121 - 150	
Breast feeder	3 (10.3%)	5 (17.2%)	15 (51.7%)	4 (13.8%)	2 (7.9%)	29
Nil	4 (17.4%)	9 (39.1%)	10 (43.5%)	0	0	23
Bromocriptine	9 (36.0%)	6 (24.0%)	9 (36.0%)	1 (4.0%)	0	25
Bromo. + Abl.	2 (16.7%)	3 (25.0%)	6 (50.0%)	1 (8.3%)	0	12
Ablacton	0	2 (20.0%)	7 (70.0%)	1 (10.0%)	0	10

**Table 4. Mean Age, Cycle, Parity and First Postpartum Menstruation in 5 Groups**

	Age	PMC	Parity	Initiation of M.C.*
Breast feeder	28.8	31.0 ± 3.7	1.6	72.9 ± 27.0
Nil	27.7	30.4 ± 3.3	1.4	55.7 ± 15.5
Bromocriptine	28.2	34.8 ± 10.6	1.5	56.8 ± 20.5
Bromo. + Abl.	29.5	30.7 ± 3.5	1.8	66.4 ± 20.4
Ablacton	27.1	36.6 ± 19.5	1.7	74.4 ± 15.4

\*Breast : Nil P < 0.01  
Breast : Bromo. P < 0.01  
Nil : Abl. P < 0.01  
Bromo. : Abl. P < 0.01

PMC: Pre-pregnant menstrual cycle

was 56.8±20.5 days. Of these patients 36% had resumed menstruation by 42 days, 60% by 60 days and 96% by 90 days.

In Bromocriptine plus Ablacton group, the mean age was 29.5±4.5 years, the mean prepregnancy cycle length was 30.7±3.5 days, the mean parity was 1.8, the mean time for the return of menstruation was 66.4±20.4 days. Of this group 16.7% had resumed menstruation by 42 days, 41.7% by 60 days and 91% by 90 days.

In Ablacton group, the mean age was 27.1±4.5 years, the mean prepregnancy cycle length was 36.6±19.5 days, the mean

parity was 1.7, and the mean time for the return of menstruation was 74.4±15.4 days. None of this group had resumed menstruation by 42 days, 20% by 60 days, and 90% by 90 days (Table 3).

There was no significant difference in age, parity, and length of previous menstrual cycle among the 5 groups. The mean time for the return of menstruation was earlier in Bromocriptine and bottle feeding without medical ablation groups and later in breast feeder and Ablacton for suppression of lactation groups (P < 0.01) (Table 4).

## DISCUSSION

Bromocriptine suppresses the prolactin level and at the same time promotes ovulation. In this small series, a single ovulation took place as early as 37th day after childbirth in a non-lactator. While Cronin reported the earliest ovulation on day 27 among non-lactators and on day 35 among lactators<sup>(5)</sup>.

In the developed countries, relatively poor contraceptive effect of breast feeding compared to that of developing countries is due to early weaning and subsequent reduction in suckling<sup>(8)</sup>. Cook and Boyle reported that breast feeding mother must let her baby suckle at least five times per day with a total suckling duration of more than 65 minutes per day (more than 10 minutes per feed)<sup>(9,10)</sup>. Any reduction below either of these limits may result in return of fertility. In our breast feeder group, the mean period for return of menstruation is shorter than other studies. It may be due primarily to early weaning of our study group.

Among non-lactator, if we use Ablacton for suppression of lactation, the mean time for the return of menstruation is longer than other groups. The long action of the hormones preparation seems to suppress both lactation and ovarian function.

For an effective family planning, contraception must be instituted as early as possible, even in the puerperal period and before the customarily six weeks check-up.

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## 中國婦女產後六週時 排卵率與產後第一次月經來潮

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在資料完整的 99 位產婦，於產後檢查時施行子宮內膜吸取術，並以其餵乳方式分成五組：餵母乳者有 29 位，自行退奶者有 23 位，以 Bromocriptine 退奶者有 25 位，以 Bromocriptine 加 Ablacton 者有 12 位，只以 Ablacton 者有 10 位。其年齡、胎次、月經週期在統計學上沒有意義的差別，觀察他們產後六週檢查時的排卵率與產後第一次月經來潮的情形。

統計結果於產褥期排卵者只有一例，佔所有案例的 1.1% 且發生在以 Bromocriptine 為退奶的組別，依病理診斷，其發生在產後第 37 天。月經來潮的時間分別為 72.9、55.7、56.8、66.4、74.4 天。

自行退奶或以 Bromocriptine 為退奶者，月經來潮較早，而以 Ablacton 為退奶者來潮的時間稍遲。餵母乳者由於哺乳的時間與次數減少，致使來潮的時間縮短。

由此資料，因 Bromocriptine 有退奶與促進排卵作用，使產後排卵提早到第 37 天，所以避孕措施必須儘早開始。對家庭計劃而言，以 42 天為產後檢查，對於人工餵奶，尤其以 Bromocriptine 為退奶者是否恰當乃值得商榷。

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