

## RESUMPTION OF OVULATION FOLLOWING DELIVERY

by

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After full term delivery and abortion there is a period of anovulation and infertility. It is of immense importance to know the duration of this period, as increasing need is felt for spacing the pregnancies and limiting the family. This knowledge will make the use of contraceptive devices unnecessary during the period of infertility following parturition. Some women conceive during this period and thus the question of degree of suppression of ovarian activity arises. The present study was undertaken to determine the time of return of ovulation after delivery.

### Material and Methods

One hundred women in postpartum period were taken for this study. Out of these, 50 were lactating 22 were not lactating and 28 were partially lactating. Cases were selected from O.P.D. and Maternity Wards of U.I.S.E. Maternity Hospital, Kanpur. Following investiga-

tions were carried out in all the cases for the first time between 4th and 10th day after delivery, for the second time 6 weeks after delivery and thereafter every 4 weeks till menstruation was resumed. After the establishment of menstruation patients were investigated in the premenstrual period as long as they reported for study till the return of ovulation.

*Endometrial Biopsy:* Biopsy specimen was fixed in 10% formaldehyde, stained and studied to see the evidence of ovulation.

*Vaginal Cytology:* Vaginal smear was studied after staining with Papanicolaou's method (from approved laboratory Technique by Kolmer *et al* (1960). Criteria for ovulation were based on the progesterone effect on the morphology of the cells and maturation index evaluation (Frost, 1955).

*Cervical Mucus Ferning:* Cervical mucus was taken and spread on the glass slide. After drying, the smear was studied under the microscope and graded as positive, negative or atypical. In normal menstrual cycle fern pattern appears on 5th to 7th day and disappears by 20th to 22nd day indicating ovulation. If fern pattern persists in premenstrual phase it indicates an anovulatory cycle.

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Accepted for publication on 10-1-1980.

## Observations

TABLE I  
Time of Onset of Menstruation in Various Groups of Cases

Groups	0 to 1½ months	0 to 3 months	0 to 6 months	0 to 9 months
Lactating	—	33.3%	76.18%	80.95%
Partially lactating	—	53.84%	100.0%	—
Non-lactating	9.09%	100.0%	—	—

Above Table shows that only 80.95% of lactating women started having menstruation by the end of 9th month, whereas 100% of non-lactating women had menstruation by the end of third month.

delivery, whereas majority of the women below the age of 20 years ovulated between 3-6 months of delivery.

Above Table shows that ovulation after delivery returns earlier in women with

TABLE II  
Time of Return of Ovulation in Various Groups of Cases

Groups	0 to 1½ months	0 to 3 months	0 to 6 months	0 to 9 months
Lactating	—	22.72%	77.27%	81.8%
Partially lactating	—	25.0%	91.66%	—
Non-lactating	9.09%	81.81%	100.0%	100.0%

Out of 50 lactating women, 6 did not come for follow up regularly, none of the lactating women ovulated within first 6 weeks of delivery, whereas 9.09% of non-lactating women ovulated by the end of 6 weeks.

greater number of children.

## Discussion

In our study commencement of menstruation was found to be early in non-lactating women; 100% of these women

TABLE III  
Time of Return of Ovulation in Women of Different Age Groups

Age groups (years)	Total No. of cases	0 to 3 months		3 to 6 months		6 to 9 months		Not followed	
		No.	%	No.	%	No.	%	No.	%
Less than 20	10	—	—	8	80.0	—	—	2	20.0
21-25	30	6	20.0	16	53.3	2	6.6	6	20.0
26-30	40	18	45.0	20	50.0	—	—	2	5.0
31-35	18	6	33.3	2	11.1	—	—	10	55.56
Above 35	2	2	100.0	—	—	—	—	—	—

Above Table shows that all the women above the age of 35 years ovulated within first 3 months of delivery, majority of the women in the age group between 31-35 years ovulated within first 3 months of

menstruated by the end of 3rd month. This is in accordance with the results of Sharman (1951) who found that 99% of non-lactating women menstruated within 12 weeks of delivery.



TABLE IV  
Time of Return of Ovulation in Women of Different Parities

Parity	Total No. of cases	0 to 3 months		3 to 6 months		6 to 9 months		Not followed	
		No.	%	No.	%	No.	%	No.	%
P <sub>1</sub>	36	10	27.7	20	55.5	—	—	6	16.6
P <sub>2</sub>	30	6	20.0	14	46.6	2	6.6	8	26.6
P <sub>3</sub>	20	8	40.0	10	50.0	—	—	2	10.0
P <sub>4</sub> and above	14	8	57.1	2	14.29	—	—	4	28.57

In our study the subsequent menstrual cycles were found to be regular in 72.2% of lactating, 83.3% of partially lactating and 90% of non-lactating women. These findings more or less tally with the findings of Sharman (1966), that the subsequent menstrual cycles were found to be regular in 72.6% lactating, 92.6% partially lactating and 90.2% non-lactating cases.

Mean time of return of ovulation in non-lactating cases was 2.3 months. Earliest time of resumption of ovulation was 45 days and latest was 109 days. Mean time of return of ovulation in lactating patients was 4.10 months. Earliest ovulation recorded in lactating women was on 65th day. These findings are more or less in accordance with the findings of Sharman (1966), who found earliest ovulation in 13th week in lactating women and in 7th week in non-lactating women. Cronin (1968) found earliest ovulation in 6th week in non-lactating and in 12th week in lactating women.

We found in our study that ovulation occurs earlier in older women as compared to the younger women (Table III). Women with greater parity were found to be ovulating earlier than the less parous women in post-partum period (Table IV) 6% of our cases conceived in lactational amenorrhoea, this differs from

the findings of other authors. Sharman (1966) found that incidence of pregnancy was nil in lactating women. Kamal *et al* (1969) found that incidence of pregnancy in 120 lactating women was 57% and out of these 39% had lactational amenorrhoea.

#### Summary

One hundred women in post partum period were included in this study; 50 were lactating, 22 were not lactating at all and 28 were partially lactating. Commencement of menstruation and return of ovulation was earlier in non-lactating women than in the lactating group. We also found that women of comparatively elder age group and greater parity start ovulating earlier in the post-partum period. The results have been compared with those of other authors.

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