# MATERNAL EFFECTS OF EARLY AND LATE CLAMPING OF UMBILICAL CORD

by

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Much work has been carried out by various authors regarding the foetal effects of early and late clamping of umbilical cord. But very limited information is available on maternal effects of Obstetrical handling of cord.

Anaberg and Reid (1945) found that overdistension of uterus, birth weight of baby, parity of patient, oxytocic drugs do not influence the amount of postpartum bleeding. Walsh (1968) investigated early clamped infants in 59 mothers and 58 mothers of late clamped infants. He compared the duration of third stage of labour, the incidence of retained placental secumdines and postpartum bleeding in both groups. He concluded that postpartum bleeding was significantly greater in mothers of early clamped infants and was not related to over distension of uterus, medications and soft tissue injuries. He found no difference of third stage of labour but manual removal of placenta was required more in early clamped group.

This clinical trial was conducted on 400 cases admitted to V.S.S. Medical College Hospital from February, 1969 to March, 1972. A detailed history and clinical examination was done in all cases. The cases were divided into two groups, depending upon the time of clamping of umbilical cord.

Early clamping was done in 200 cases where the umbilical cord was clamped immediately after birth of the baby. Late clamping was done in 200 cases where the umbilical cord was clamped after the cessation of pulsation of umbilical cord. The cases for each group were selected at random.

Soon after the delivery of the baby a sterile receptacle was placed closely against the patient's perineum and the blood lost before and after the delivery of placenta was collected in it. The blood was prevented from clotting by adding 20 ml. of 4% sodium citrate solution to the receptacle. Bleeding from episiotomy wound was collected separately. Small amount of blood from lacerations and possibly a little of liquor amni was inevitably included with blood from the placental site.

Cases where there was postpartum haemorrhage after delivery of placenta were treated by intravenous ergometrine, syntocinon drip, exploration of uterine cavity and other resuscitative measures. The following observations were made.

*Duration of Third Stage*

The mean duration of the third stage in early clamping group was observed to be 4.63 min. in cases where prophylactic ergometrine was given and 19.79 min. where prophylactic ergometrine was not given. In late clamping group the mean duration of third stage was found to be 4.64 min. and 10.87 min. respectively (Table I).

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Accepted for publication on 29-6-1979.

TABLE I
*Duration of Third Stage of Labour*

| | Early Clamping | | | | Late Clamping | | | |
|---|---|---|---|---|---|---|---|---|
| | Minimum in Mins. | Maximum in Mins. | Mean in Mins. | S.D. | Minimum in Mins. | Maximum in Mins. | Mean in Mins. | S.D. |
| With Prophylactic Ergometrine | 3 | 8 | 4.63 | ± 0.9 | 3 | 6 | 4.64 | ± 0.7 |
| Without Prophylactic Ergometrine | 5 | 35 | 19.79 | ± 7.54 | 5 | 18 | 10.87 | ± 3.83 |

S.D.:—Standard Deviation.

*Postpartum Loss of Blood*

The mean postpartum blood loss was 125.19 ml. and 312.36 ml. in early clamping group where ergometrine was injected prophylactically and where it was not given prophylactically respectively. In late clamping group the corresponding figures were 82.84 ml. and 184.96 ml. (Table II).

In this series in 18 cases placenta was retained. Out of 18 cases, 16 (8%) were in early clamping group and 2 were late clamping group as shown in Table III.

*Discussion*

The effect of early and late clamping of umbilical cord on mothers has been observed by Walsh (1968). He concluded that there was no difference in duration of third stage of labour in both the groups. In the present series the duration of third stage without prophylatic ergometrine is more (19.79 min) in early clamping cases than that of (10.87 min) in late clamping cases. But this difference is not statistically significant (p 0.5).

Walsh (1968) noticed that postpartum blood loss in early clamped group was 364 ml. and 268 ml. in late clamping group, whereas we have observed 312.36 ml. and 125.0 ml. in respective groups where prophylatic ergometrine was not given. The difference of the postpartum blood loss in both groups of cord clamping was statistically significant, irrespective of use of ergometrine prophylactically (p $0 < 001$).

In Walsh's (1968) series there were 5 (9%) cases of retained placenta in early clamped group. In the present series we observed the incidences of retained placenta in early clamping group to be 8% (16 cases), whereas placenta was retained in 2 cases only (1%) of late clamping group. This difference was statistically analysed and found to be significant (p $0 < 005$).

TABLE II
*Postpartum Blood Loss*

| | Early Clamping | | | | Late Clamping | | | | Significance t-test |
|---|---|---|---|---|---|---|---|---|---|
| | Minimum (in ml.) | Maximum (in ml.) | Mean (in ml.) | S.D. | Minimum (in ml.) | Maximum (in ml.) | Mean (in ml.) | S.D. | |
| With Prophylatic Ergometrine | 100 | 250 | 125.19 | 26.06 | 60 | 100 | 82.84 | 11.35 | P 0<001 |
| Without Prophylatic Ergometrine | 100 | 750 | 312.36 | 146 | 70 | 650 | 184.96 | 125 | P 0<001 |

TABLE III
*Incidence of Retained Placenta*

| | Early Clamping | | Late Clamping | | Significance CHI-Square test |
|---|---|---|---|---|---|
| | Retained placenta | Retained placenta secundines | Retained placenta | Retained placental secundines | |
| With Prophylactic Ergometrines | — | 1 | — | — | — |
| Without Prophylactic Ergometrines | 1 | 14 | — | 2 | p 0<005 |

Fig. 1
Shows endometriotic nodule in recto vaginal septum being cryocauterised vaginally.

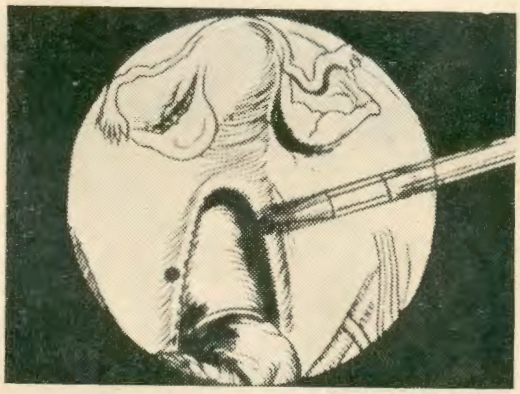

Fig. 2
Shows endometriotic nodule being cryocauterised (through laproscope).

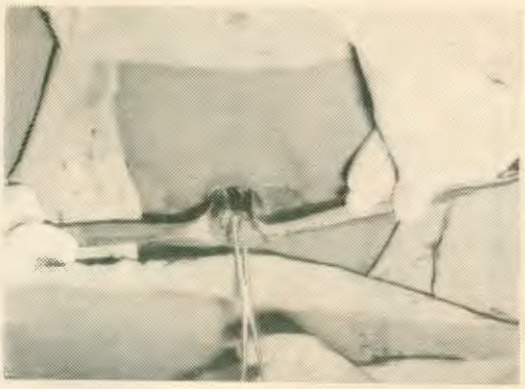

Fig. 3
Shows endometriosis nodule in rectus sheath reached by incision.

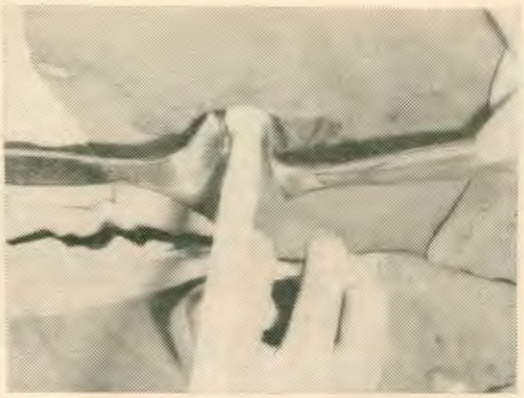

Fig. 4
Shows cyoprobe on endometriosis nodule intra abdominal wall.

*Menstrual Regulation and Contraception—Sarkar et al pp. 462-466*

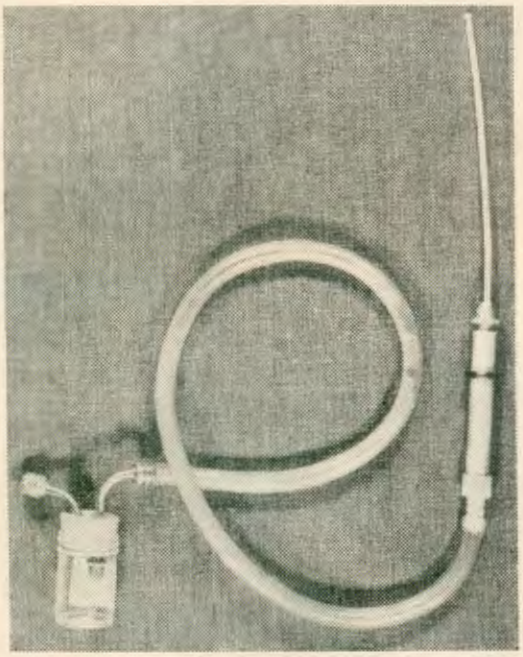

Fig. 1
Apparatus for MR.

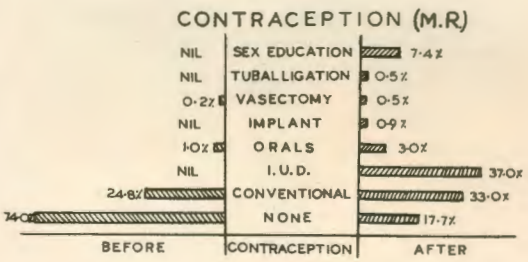


Fig. 2
Acceptance of contraception.

*Endometrial Study by Metal Cannula—Mhatre et al. pp. 543-547*

Fig. 1

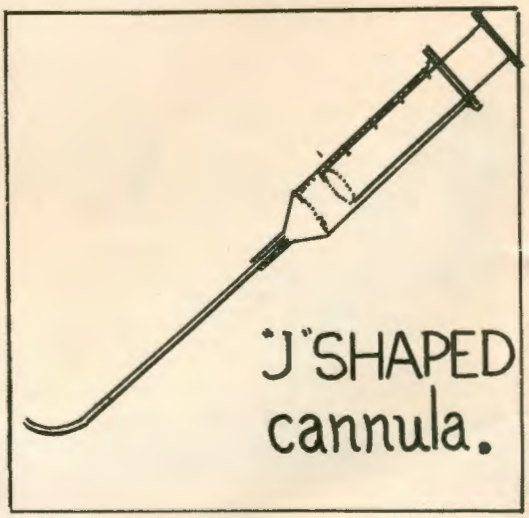


Fig. 2