

STUDY ON FORCEPS DELIVERY WITH REFERENCE TO FOETAL OUTCOME

by

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To achieve the most desirable method of vaginal delivery in some unfavourable conditions, obstetric forceps with its time to time modifications have been devised. With increasing experience of foetal mortality and morbidity, forceps application and forceps delivery were found undesirable under certain circumstances of labour. Wider use of oxytocic drip to stimulate uterine contractions and ventouse application further helped to deal with these unfavourable conditions but obstetric forceps remain still a very important and useful instrument in modern day obstetrics. This study has therefore been undertaken to evaluate the foetal outcome in forceps delivery.

Materials and methods

This study consisted of 500 consecutive cases of forceps delivery during a period of 9 months from 15. 7. 78 to 14. 4. 79 in Eden Hospital. During this period, there were 720 caesarean sections, 5085 spontaneous vaginal deliveries and 35 deliveries by other methods (destructive operation ventouse, internal podalic version and breech extraction etc.).

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Thus there were 6,340 total deliveries and the ratio of forceps delivery to total deliveries was 1 in 12.6, ratio of forceps delivery to spontaneous vaginal delivery was 1 in 10.1 and ratio of forceps delivery to caesarean section was 1 in 1.5.

Age

One hundred and ninety cases were below 20,283 were between 21-30 years and 27 were in between 31-40 years. Three hundred and sixty cases were primigravidas, 75 were 2nd gravidas, 35 were 3rd gravidas, 17 were 4th and 13 were 5th or higher gravidas. Only 162 were booked cases.

Nature of Previous Pregnancy and Labour

History of abortion was present in 26 cases, 14 had history of previous lower uterine caesarean sections. One had bad obstetric history of a stillbirth.

Previous Gynaecological Disorders

One case had pelvic floor repair operation and another had cervical amputation.

Complications of Pregnancy or Associated Disorders

Pre-eclampsia was in 54 cases, eclampsia in 7, accidental haemorrhage in 1.

Two cases were suffering from essential hypertension, 6 from heart diseases, 5 from severe anaemia and 3 from Jaundice. Seven cases had Rh negative blood group, 2 cases were associated with fibromyoma of uterus leading to ineffective uterine contraction and other case had 1° uterine prolapse.

Duration of Present Pregnancy

Twenty-one cases were in between 32-36 weeks, 66 cases belonged to 37-38 weeks, 378 cases were in between 38-40 weeks and only 42 cases were more than 40 weeks.

Duration of Labour

It was within 8 hours in 124 cases, between 9-16 hours in 146 cases between 17-24 hours in 175 cases between 25 to 36 hours in 44 cases and in between 37-48 hours in 11 cases.

Indications of Forceps

Foetal distress—113, prolonged 2nd stage—204 which included 121 cases of transverse arrest or malpositions and 83 cases of uterine inertia:

Maternal distress—38, after-coming head of breech—12, Rigid perineum with uterine inertia—41, suspected outlet contraction—1, cord prolapse—4, prophylactic forceps—87.

Types of Forceps

Low forceps was performed in 378 including 109 cases were of outlet forceps. Midforceps was performed in 121 out of which manual rotation was required in 83, successful trial of forceps—1.

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Indication of 121 Midforceps

Deep transverse arrest in 86, persis-

tent occipito-posterior in 17, face (mento-anterior)—5, persistent occipito-sacral 13.

Maternal Complications

Besides 86 cases of episiotomy wound infections and 27 cases of urinary tract infections, 2 cases had moderate P.P.H., 4 had retained placenta, 2 had complete cervical tear. One case suffered from extension of episiotomy wound towards the vault of vagina, 3 cases had cervical tear and 10 cases from vulval haematoma. Thus a total of 22 cases suffered from various complications other than infections. Sixteen of these 22 were associated with midforceps application, commonest being vulval haematoma, cervical tear and complete perineal tear. In this series there was no maternal death.

Foetal Outcome

Two hundred and sixty-nine were male babies and 231 were females. One hundred and thirty five were premature and 365 were mature.

Foetal complications

In 101 cases amongst 500, foetal complications occurred such as stillbirth in 6, gross asphyxia which could not be recovered in 5, and another 90 cases had mild to severe asphyxia at birth. Of these 90 cases, 1 baby suffered from intracranial haemorrhage and died in the early neonatal period. There were 9 more neonatal deaths, 3 due to septicaemia, 1 due to gastro-enteritis, 4 from gross prematurity and 1 due to aspiration pneumonia. Thus a total of 15 neonatal deaths and 6 stillbirth occurred subsequent to 500 forceps application, constituting overall perinatal mortality as 21 in 500 (4.2%). However, the corrected perinatal mortality due to forceps will be 0.2% i.e., 1 case of intracranial haemorrhage only. Other 20 deaths were not directly related

to forceps applications. Amongst these 21 deaths, 10 were associated with midforceps including 4 stillbirths. Besides these 21 mortalities, morbidity was present in 61 (12%) cases, mostly in the form of infections such as gastroenteritis, bronchopneumonia etc. Besides these morbidities. 2 other cases showed minor congenital malformations such as congenital dislocation of left knee joint in 1 case and imperforate anus in other.

In British hospital the incidence varies in between 10 to 13.5% (Donald, 1969). In this series the uncorrected foetal loss is 4.2% and corrected mortality is 0.2%, Donald (1969) reported uncorrected mortality as 3.5% and corrected mortality as 0.4% approximately. The perinatal mortality was 12%, in the present series. It has further been observed that the foetal mortality and morbidity do not differ significantly from these following

TABLE I

Comparison of Foetal Morbidity and Mortality in Different Modes of Delivery (500 in each group)

Modes of delivery	Stillbirths	Neonatal deaths	Total mortality	Total morbidity
Normal	29	17	46	47
Forceps	6	15	21	61
C.S.	10	30	40	112

The above Table showed that foetal mortality and morbidity following forceps application are less than those following both C.S. and spontaneous vaginal deliveries.

Comments

The foetal outcome amongst 500 forceps deliveries is presented. Critical analysis of 500 forceps application is also included. The incidence of forceps application in the present series is 1 in 12.6.

spontaneous vaginal deliveries but was less than those following sections. However maternal morbidity was commoner than those following vaginal delivery.

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References

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