PERINATAL MORTALITY IN FORCEPS OPERATIONS IN KING GEORGE HOSPITAL, VISAKHAPATNAM

by

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The improved foetal salvage among forceps operations as reported by various authors was achieved partly by improvement in the technique of the operation but mainly by changes in views on the appropriate time when forceps can safely be applied. Whereas formerly only high forceps operations were condemned, it was during the past decade or two that mid-forceps deliveries too have not been encouraged, as the operation is attended by foetal mortality which is in direct proportion to the height of the skull from the perineal floor. The mortality rate in low forceps operations should be practically zero. With the increase in the incidence of forceps operations, mainly the low forceps deliveries, the perinatal mortality has come down remarkably, as reported from several clinics. With various improvements and recent advances made in the technique of anaesthesia, regional anaesthesia is being used more frequently almost replacing the general which was the only method of anaesthesia with its hazards both to the mother and the baby in the past.

Material for Study

This material is a review of mother and infant obstetric records at King George Hospital, Visakhapatnam, for the period 1955 to 1959 (both years inclusive). Causes of the perinatal deaths among the babies delivered by forceps operations and the incidence of deaths in relation to the type of forceps operations were analysed. There were 702 forceps operations of all types during the five-year period and 76 perinatal deaths among them, giving an overall perinatal mortality of 10.8 per cent.

Incidence

The incidence of forceps operations in the five-year period and the respective perinatal death rates are tabulated below :

TABLE

Year	Total No. of deliveries	Forceps operations	Perinatal deaths in forceps deliveries	Incidence of forceps	Perinatal mortality rate in forceps
1955	1570	111	16	7.7%	9.1%
1956	1653	120	13	7.8%	10.8%
1957	1867	180	16	9.6%	8.8%
1958	1971	121	15	6.14%	12.4%
1959	2101	170	16	8.1%	9.4%

Read at the 11th All-India Obstetric and Gynaecological Congress at Calcutta in January 1961.

The overall perinatal mortality rate of 10.8% (with a corrected figure of 9.4 per cent, excluding those cases in whom there were evi-

dences of foetal death at the time of application) in our hospital is very high in comparison with very low figures reported by others. In mid and low-mid forceps operations the death rate was 9.4 per cent, whereas in low forceps deliveries it was 1.4 per cent. There were three cases of failed forceps operations, in none of these did the baby survive, giving a cent per cent mortality rate. Among the forceps operations performed to the aftercoming head, the perinatal mortality rate was 44.4 per cent. If all the emergency admissions were eliminated the mortality came to 2.2 per cent. This is a slightly higher figure than those quoted by other authors. Denman, from New York Polyclinic hospital, reports 1.3 per cent of foetal mortality in midforceps; Weinberg, reports 0.5 per cent of foetal mortality from a series of 1000 mid-forceps. T. N. A. Jeffcoate, from Liverpool Maternity Hospital, reported that there was a marked reduction from 20 per cent to 2 per cent of mortality rate with the increasing incidence of forceps operations. Khan from Calcutta (1955) reported an overall foetal death rate of 6.2 per cent in mid-forceps deliveries and his corrected figure obtained was 3.1 per cent.

Causes of Perinatal Deaths in Forceps Operations

Birth injury was attributed as a cause of death in 45 per cent of cases, *prematurity* with neonatal infections in 32 per cent, *congenital malformations* in 4 per cent of cases, the rest being due to *intranatal and neonatal asphyxia.* Important obstetric indications for forceps application associated with perinatal mortality according to the frequency of deaths in descending order were: foetal distress, delayed second stage, eclampsia, pre-eclamptic toxemia, miscellaneous.

As reported by T. N. A. Jeffcoate, birth injury which had long been credited with approximately 33 per cent of deaths before, now accounts for less than 10 per cent. He is of the opinion that as preventable causes are disappearing, foetal malformations become relatively more important. Improper application of forceps without prior correction of the position of the head and persistent unsuccessful attempts to deliver the head resulting in excessive compression and intra-cranial haemorrhage contributed to the foetal deaths. Two-thirds of the death had occurred during labour and the remaining in the neonatal period, the latter group of babies manifested signs and symptoms of intracranial haemorrhage in the majority. Fifty-five per cent of patients with perinatal deaths were admitted to the hospital late in labour, having had no antenatal care whatsoever. Sixty-seven per cent of these perinatal deaths in forceps operations were in primiparae.

Prevention

Antenatal and intrapartum care go a long way in detecting the abnormalities which, either by themselves or in combination, cause the deaths during or immediately after birth. Caesarean section, with the present improved methods in anaesthesia and blood transfusion techniques proved to be much safer for both the mother and the baby and thus preferred to a difficult mid-forceps operation. The trial of forceps as suggested by Frank

(1908) and recently advocated by Parry Jones (1952) could of course be abused. It has no place save in the hands of an expert working in the hospital—the same modification which applies to the accepted practice of trial of labour. The only difference is that classifically, trial of labour is concerned with disproportion at the pelvic inlet, whereas trial of forceps is concerned with disproportion in the pelvic cavity. One should not insist on completion of forceps delivery inspite of few tentative pulls which proved to be unsuccessful, and that failure to deliver with forceps is not as great a sin as failure to recognise defeat at an early stage to improve foetal salvage.

It is much better to allow the head to descend and then to complete the delivery by forceps instead of attempting to deliver with forceps from high levels.

Forceps operation, performed in anticipation of foetal or maternal distress as was referred to as elective or prophylactic forceps by DeLee, was attended with the least danger to the foetus and is claimed to be a safer method than even a spontaneous delivery. The frequent and almost routine use of forceps for lifting the after-coming head from the cavity of the pelvis is one of the best means of ensuring a low perinatal mortality. Low perinatal mortality and morbidity were noticed with the improvements made in the obstetric forceps. Berggren and Israel and others are in favour of using Malmstrom vacuum extractor as a substitute for forceps in difficult labours as it is not so very injurious to the child, in addition to its other advantages.

Summary

1. Factors for the present low perinatal mortality rate among forceps operations are outlined.

2. Incidence of mortality rate in the five-year period and the relation to the type of forceps operations are mentioned.

3. Causes of death were analysed and studied in comparison with other figures.

4. Means to prevent the mortality figures were enumerated.

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