

PERINATAL OUTCOME IN PRETERM LABOUR IN A REFERRAL HOSPITAL

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SUMMARY

Two-thousand and fifty-one newborns (including 24 sets of twins) delivered over a period of one year were analysed retrospectively in order to find out the incidence of preterm labour and the resultant mortality and morbidities associated with the above condition. Out of 2051 newborns, 239 (11.6%) were preterm. The overall perinatal mortality for the year was 95/1000 deliveries whereas preterm deliveries contributed to 56.4% of the perinatal deaths. Out of 239 preterm babies, 50 were stillborn and 60 early neonatal deaths; thus giving a perinatal mortality rate of 460 per thousand births. Severe birth asphyxia with ventricular hemorrhage accounted for most of the early neonatal mortalities, lethal congenital malformations were also important contributors of early neonatal deaths among preterm neonates. Birth asphyxia, infections and hyperbilirubinaemia were the common morbidities observed in preterm babies.

INTRODUCTION

Preterm delivery, remains the most important obstetric problem in the world today (Lipshitz and Brown, 1986). The perinatal mortality in preterm Indian babies has been reported to be 2-7 times

higher than term birth (Bhargava et al, 1990). Much of the regional variation, seen in the perinatal mortality, can be explained by differences in the proportion of preterm births, quality of antenatal care to mother and perinatal care set up. The overall perinatal mortality of our country in general and that of Uttar Pradesh in particular is un-acceptably

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high (Bhargava et al, 1990). The present study is an endeavour to analyse and audit the perinatal mortality and morbidity due to preterm deliveries in one of the University Hospitals of Uttar Pradesh.

MATERIAL AND METHODS

Two-thousand and fifty-one newborns (including 24 sets of twins) delivered over a period of one year (January to December 1988) in the Department of Obstetrics & Gynaecology of Institute of Medical Sciences, Banaras Hindu University Varanasi, were the study subjects. The case records of all the preterm deliveries were reviewed with regard to maternal age, parity, previous obstetric history, medical or obstetrical complications in the present pregnancy and labour. The fetal outcome in terms of mortality and morbidities were also analysed.

RESULTS

The Table I shows that out of the 2051 newborns, 1950 were live births and 101 were stillborn. Ninety-four babies died during the first 7 days of life giving a

perinatal mortality rate (PMR) of 95 per thousand births. Out of 2051 babies, 239 were preterm (11.6%). Out of 239 preterm babies, 50 (21%) were stillborn and 60 out of 189 livebirths (31.7%) died within 7 days of delivery (early neonatal death). The total perinatal mortality amongst preterm births was found to be 460/1000 births. 56.4% of the total perinatal deaths were due to preterm births (110 out of 195). When compared to term births, preterm births had 7.2 times stillborn babies, 15.9 times early neonatal deaths and 9.8 times perinatal mortality. Table II shows the various obstetric factors associated with perinatal deaths. The factors like PIH (Pregnancy induced hypertension), APH (antepartum hemorrhage), fetal distress, malpresentations, obstructed labour and ruptured uterus contributed to a major chunk of perinatal deaths. The PIH, APH were responsible for more of stillbirths whereas fetal distress and preterm twin births were associated with more of early neonatal deaths. Malpresentations and congenital malformations led to

Table I
Perinatal Mortality in Relation to Gestation

	Gestation			Total
	Preterm	Term	Post-term	
Number of deliveries	239	1783	29	2051
Live births	189	1732	29	1950
Still births	50 (20.9)	51 (2.9)	—	101
Early neonatal deaths	60 (31.7)	33 (2.0)	1 (3.6)	94
Perinatal deaths	110	84	1	195
Perinatal mortality rate	460/1000 births	47.1/1000 births	34.4/1000 births	95/1000 births

equal proportion still births and early neonatal deaths.

The principal morbidities among the preterm neonatal observed were, birth asphyxia (18%), infections (13.5%), hyperbilirubinemia (12.3%), hypoglycemia (4.9%) and hypothermia (2.4%). The principal causes of early neonatal deaths in preterm were severe birth anoxia, intraventricular hemorrhage,

infections and lethal congenital malformations (Table III).

DISCUSSION

The incidence of preterm delivery varies from country to country and institution to institution and it probably lies between 5 to 10% of all births (Singh, 1986; King, 1987). The preterm delivery rate of 11.6% from our hospital is similar

Table II
Causes of Perinatal Mortality in Preterms in Relation to Obstetric Factors

Factors	Still Births		Early Neonatal Deaths		Total	
	No.	%	No.	%	No.	%
Pregnancy induced hypertension	11 (22.0)	(61.1)	7 (11.7)	(38.8)	18 (16.4)	
Foetal distress	5 (10.0)	(26.3)	14 (23.3)	(73.6)	19 (17.3)	
Antepartum hemorrhage	9 (18.0)	(60.0)	6 (10.0)	(40.0)	15 (13.6)	
Malpresentations (Breech/ Transverse lie)	7 (14.0)	(50.0)	7 11.7)	(50.0)	14 (12.7)	
Obstructed labours/Rupture uterus	2 (4.0)	(66.6)	1 (1.6)	(33.4)	3 (2.7)	
Fetal congenital anomaly	5 (10.0)	(50.0)	5 (8.3)	(50.0)	10 (9.0)	
Multiple pregnancy	2 (4.0)	(28.6)	5 (8.3)	(71.4)	7 (6.4)	
Maternal jaundice	1 (2.0)	(50.0)	1 (1.6)	(50.0)	2 (1.8)	
Miscellaneous	5 (10.0)	(33.3)	10 (16.7)	(66.7)	15 (18.6)	
No exact cause could be obtained	3 (6.0)	(42.9)	4 (6.7)	(57.1)	7 (6.4)	
Total	No. %	50 (100)	(45.5)	60 (100)	(54.5)	110

Figures in () show column percentage and figures in () shows percentage in each row subgroup.

Table III
Causes of Early Neonatal Deaths in preterm labour

Cause	Early Neonatal Deaths	
	No.	%
A. Birth Asphyxia		
a) Severe Birth Asphyxia	30	50.0
b) Severe Birth Asphyxia with Intraventricular Hemorrhage	05	8.3
c) Severe Birth Asphyxia with Pulmonary Hemorrhage	01	1.6
d) Severe Birth Asphyxia with Aspiration	01	1.6
B. Respiratory Distress		
a) Pulmonary Hemorrhage	03	5.0
b) Idiopathic Respiratory Distress Syndrome	06	10.0
C. Infections		
a) Septicaemia	06	5.0
b) Septicaemia with Disseminated Intravascular Coagulation	01	1.6
c) Septicaemia with Septic Meningitis and Aspiration	01	1.6
D. Major Congenital Anomalies	05	8.3
E. Hyperbilirubinaemia with Hypoglycaemia	01	1.6
Total	60	100

to that reported from other parts of the country (Singh, 1986; Bhalla et al, 1977; Karan and Nair, 1987). But what is rather disturbing is the observation that preterm births accounted for a disproportionately larger percentage of perinatal deaths. Fuchs (1976) reported that 8% deliveries that occurred prematurely accounted for 75% of perinatal deaths. Similarly, in the developing countries, prematurity or conditions associated with it, is the cause of more than half of the neonatal deaths (Tambyraja, 1992). In the present study, though preterm deliveries constituted only 11.6% of total deliveries, it

contributed to more than half of the perinatal deaths (56.4%). The survival potential of preterm babies has been found to be as low as 30.5% (Bhakoo et al, 1975). In the present study, the corresponding figure was 460 per 1000, of which 55% were early neonatal deaths. This could be attributed to lack of intensive care facilities at the centre. This is further substantiated by the fact that proportion of early neonatal deaths was 16 times higher in preterm than the term babies.

Unlike an autopsy which determines how a baby died, analysis of perinatal

death by obstetric causes, helps the obstetrician to determine the obstetric factor responsible for trains of events leading to perinatal death. What is depressing is to observe that the preventable causes like eclampsia, fetal distress and ruptured uterus continue to be major killers of the perinates. FOGSI study (Mehta & Jayant, 1983) also observed prolonged or difficult labours and ante-partum hemorrhage to be responsible for 24% and 13.5% of overall perinatal mortality in India. Like many of the major institutions of India perinatal hypoxia, infections, immaturity and congenital malformations accounted for most of the perinatal deaths in preterm labour (Singh, 1986; Bhalla et al, 1977; Karan & Nair, 1987; Mehta & Jayant, 1983).

Prematurity accounts for 70% of neonatal mortality and morbidity (WHO, 1970). In the present study, it was observed that birth asphyxia, infections and hyperbilirubinemia were common morbidities among the preterm neonates (51%). Earlier studies have also made similar observations (Bhalla et al, 1977).

Thus, preterm labour, in spite of its low incidence of around 10%, contributes disproportionately to perinatal mortality. Preterm birth is not a single disease but it is a cascade of events culminating in early delivery thereby decreasing the survival potential of the perinate and exposing it to wide spectrum of risk of death and handicaps. Even if preterm delivery rate comes down by a quarter, a significant decrease in perinatal mortality will result. The prevention of preterm labour is one of the greatest

challenges to the perinatologists and much of it also depends on social and economic factors that have also to be addressed at. In the interim, those caring for the health and well being of mother and her offspring have to urgently concentrate on effective means and methods for prevention of avoidable factors responsible for preterm labour so as to bring down mortality and morbidity associated with this condition. Every teaching institute should have at least level II neonatal care facilities to make a significant dent in early neonatal deaths.

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