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Clinical study of intra uterine fetal death

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Abstract

Introduction and Objectives: The present study was done to determine the total number of antepartum and intrapartum fetal deaths; to know the probable etiology and management of the same, and to study the role of antenatal care in prevention of IUFD.
Materials and Method: A prospective study of intrauterine fetal demise and associated maternal factors were studied. All IUFD with singleton pregnancies more than 28 weeks of gestation were included in the study.
Results: The fetal death rate was 25.4 1000 births. Major causes of IUFD were PE and eclampsia (36.19%) and abruption placenta (19.87%). Majority were preterm (56.31%) and birth weight 2.5 kg (72.17%). Risk of IUFD was significantly less in booked patients than in unbooked patients.
Conclusion: Present study showed that majority of IUDs were preventable. Early detection of pre-eclampsia by regular ANCs and its treatment can reduce its complications including IUD and abruption placenta in few cases thereby further reducing the stillbirth rate.

Keywords: Intrauterine fetal demise, Etiology, Prevention

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Introduction

The death of a fetus is one of the unhappy events in the field of obstetrics. It's distressing when it occurs without warning in a pregnancy that has previously seemed entirely normal. It is thus vital to identify specific probable causes of fetal death to determine the risk of recurrence, prevention or corrective action. For an obstetrician, documentation of primary event or factor which has led to fetal death is of paramount importance. Only when probable etiology is known the patient can be given guidance for the treatment, prevention and recurrence as required. Illiteracy, poor socioeconomic condition and social status of women and misbelieves are important contributory factors responsible for higher fetal mortality rate.

Newer techniques of diagnosis and a better understanding of pathophysiology have led to the determination of cause of death in a greater proportion of fetal deaths than in the past. Others like eclampsia, pre-eclampsia, Rh-isoimmunization, diabetes, post-maturity, are preventable by good antenatal care. Some, such as cord accidents have remained relatively same. In the last few decades, a systematic review of maternal mortality made a significant contribution to the subsequent reduction in the maternal mortality rate. Now, it is the time to approach perinatal mortality with the same rigor.

Materials and Method

A prospective study was undertaken after seeking permission from the hospital ethical committee.

There were 5504 cases of deliveries at MVJ medical college and research hospital during the study period of November 2011 to October 2015. The cases of intra-uterine fetal death either with ultrasound reports proving IUD or diagnosed on clinical examination by absence of fetal heart rate and fetal movements were studied.

All cases of IUD with Singleton pregnancies of gestational age > 28 weeks were included in the study.

The age, parity, literacy, socio-economic status were recorded. Detailed obstetric history, present complaints and duration, present pregnancy, past obstetric performances and outcomes (including previous abortions, previous IUFD, associated toxemias, etc) were studied. In the present pregnancy, details of ante-natal check-ups, medical illness, presence of antepartum hemorrhage, pregnancy induced hypertension, eclampsia, severe anemia and other significant illness were noted. Those patients who had attended antenatal clinic atleast thrice before delivery were considered booked cases.

Clinical examination was done. General condition of the patient was noted. In per abdomen examination height of uterus, tone of uterus, presentation and position of fetus, liquor quantity was noted. Absent FHS was noted. In per speculum examination any bleeding from os or prolapse of cord noted and in per vaginal examination, liquor- colour and smell were noted. Details of the mode of delivery and any maternal complications were noted. Complete examination of fetus and placenta were done following delivery.

Results

The present study consisted of 140 cases of intrauterine fetal death during study period. About 5504

deliveries were conducted during this period. The still birth rate in this study was 25.4 per 1000 births. Antepartum deaths constituted 54.3% of total stillbirths whereas intrapartum deaths constituted 45.7%.

In this study, pre-eclampsia constituted for 26.04% of all still births. PE with eclampsia together accounted for 36.19%; abruption placenta accounted for 19.87%; unexplained 11.48%; congenital anomalies 8.83%; cord prolapse 2.43%; Transverse lie with hand prolapse 2.65%; rupture uterus 2.42%; Others less than 3% each.

The number of still births which occurred at term (37-42 weeks) was 42.60%. The birth weight between 2.5 to 3.5 kg was 35.73% followed by birth weight between 1.5 to 2kg – 27.14% and 1kg to 1.5kg – 22.14%. Preterm constituted maximum number of still births 76(56.19%) and 89(63.56%) fetuses were of birth weight less than 2500 grams.

In our study most of the patients were in the age group of 21-30 years (69.09%). 82 patients were multipara constituting 58.72% of patients. The number of male babies were 72 (51.4%) and female babies 68 (48.6%). IUFD were seen more in unbooked cases (67.15%), than in booked cases (32.85%).

Of 140 cases, 74 patients (52.85%) were in labour, where as labour was induced in 66 (47.15%) patients. The most common method of induction was with Tab. Misoprostol 25µg (75.72 %), Orally in 22 patients (20.75%) and vaginally in 84 (79.25%) patients. 120 patients (85.72%) delivered vaginally, 17 patients (12.14%) required LSCS and laparotomy was done in 3 patients (2.14%). Among the patients who delivered vaginally 48 patients (34.28%) had preterm vaginal delivery; 59 patients (42.14%) had full term vaginal delivery. 10patients (7.14%) were delivered by operative vaginal delivery.

94 patients were unbooked (67.15%). 24.59% of unbooked cases were patients of pre-eclampsia and 11.48% were cases of eclampsia followed by abruption placenta (20.99%). Maternal complications noted in 3 cases were pulmonary edema secondary to antepartum eclampsia, cortical venous thrombosis with hepatic encephalopathy with anemia, coagulopathy secondary to abruption placenta. There were 3 cases of rupture uterus in the study.

Table 1: Causes of intra-uterine fetal death

Sl. No	Causes	Total	%
1	Pre-eclampsia	36	26.04
2	Eclampsia	14	10.15
3	Abruptio placenta	27	19.87
4	Unexplained	16	11.48
5	Congenital anomalies	12	8.83
6	Placenta praevia	2	1.99
7	Cord prolapse	3	2.43
8	Transverse lie with hand prolapse	3	2.65
9	Post-maturity	2	1.09
10	Rh-isoimmunization	2	0.44
11	Infections	2	0.44
12	Diabetes	1	0.22
13	Oligohydramnios	4	3.53
14	Meconium aspiration syndrome (intrapartum asphyxia)	5	3.09
15	Rupture uterus	4	2.42
16	Prolonged and obstructed labour	3	2.2
17	Breech presentation	1	0.88
18	Anemia	3	2.2
	Total	140	100

Table 2: IUDs and antenatal care

Antenatal care	Total	Percentage
Booked	46	32.85
Unbooked	94	67.15
Total	140	100

Table 3: Insufficient ANC and IUDs

Sl. No	Factors	No. of cases	%
1	Abruptio placenta	20	20.99
2	Cord prolapse	1	0.88
3	Congenital anomalies	10	11.48
4	Prolonged labour& obstructed labor	3	3.48
5	Placenta praevia	2	2.62
6	Pre eclampsia	24	24.59
7	Eclampsia	10	11.48
8	Anemia	3	2.6
9	Rupture uterus	3	2.62
10	Unexplained	12	11.8
11	Transverse lie with hand prolapse	2	2.62
12	Intrapartum asphyxia	2	2.62
13	Breech presentation	1	0.98
14	Postmaturity	1	0.98
	Total	94	

Table 4: Mode of delivery

Mode of delivery	Total	Percentage
Vaginal	120	85.72
Preterm Vertex	40	
Preterm breech	6	34.28
Preterm face	2	
Full term vertex	52	
Full term breech	4	42.14
Full term face	3	
IPV and breech extraction	3	2.14
Forceps		
Outlet - preterm	6	7.14
Term	4	

Low		
LSCS	17	12.14
Term	12	
Preterm	5	
Laparotomy for rupture uterus	3	2.14

Discussion

The reported incidence of stillbirth from various centers in India is 24.4% to 41.9% which is similar to the incidence noted in our study that is 25.4%.[1,2,3,4,5,6] The stillbirth rate in western countries is 4.7% to 12%.[7,8,9,10,11,12,13] The higher rates in our study as compared to western countries could be explained by the fact that ours is a tertiary care institute catering to rural population. Poor socioeconomic status, poor nutrition leads to anemia and malnutrition which is a major contributor for perinatal mortality. Illiteracy, lack of awareness of adequate antenatal care and unsupervised deliveries also contribute to higher stillbirth rate. IUFD rates were higher in high birth order which highlights the importance of family planning. Korde NV et al. noted stillbirth rate of 51.6% in multigravida.[14] Past history of abortion was noted in 16.2% and IUFD in 11.2% of cases in their study.

The IUFD rates were higher in unbooked cases (67.15%) as compared to booked cases(32.85%). Al Kadri et al also reported similar evidence in which unbooked women had 70% risk of IUFD.[15] Improper antenatal care leads to lack of identification of high risk factors, anemia, preclampsia, placenta previa, malpresentations, Rh negative status, fetal anomalies and delay in effective management of these cases.

PIH and eclampsia constituted major cause of IUFD accounting upto 36.17%. Patel S et al reported PIH & eclampsia as cause of IUFD 33.7%.[16] Risk of death for a pregnant woman with severe pre eclampsia is 0.5% & risk perinatal death is 13%.[17] If the condition is untreated and eclampsia develops, the risk of death increase to 5% for the mother and 28% for the baby. This emphasizes the importance of proper antenatal care with screening and prevention of preeclampsia with low dose aspirin. Also early detection and appropriate management of pre eclampsia reduces perinatal mortality and morbidity.

Majority of women in our study group delivered vaginally(85.7%) as compared to Korde et al (73.1%) and Chitra et al(89.4%).[18] There were 3 cases of rupture uterus of which 2 were previous caesarean and 1 case of obstructed labour which highlights of timely referral of high risk cases to higher centres can prevent perinatal mortality.

Conclusion

Fetal loss is a sensitive indicator of maternal care during antenatal period. This study showed that majority of IUDs were preventable. Early detection of pre-eclampsia by regular ANCs and its treatment can reduce its complications including IUD and abruption placenta in few cases thereby further reducing the stillbirth rate.

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