

ORIGINAL RESEARCH

Retrospective Assessment of 100 Cases of Intra-uterine Fetal Deaths at a Tertiary Care Center

Kiran Trivedi¹**ABSTRACT**

Introduction: Pregnancy and child birth, though physiological processes, are not free of risks. Intrauterine fetal death (IUFD) is defined by the international classification of diseases as antenatal or intrapartum death after 22 completed weeks of gestation or more than 500 grams. Hence; the present study was undertaken for assessing 100 cases of intra-uterine fetal deaths and maternal risk factors and outcome at a tertiary care center.

Material and methods: Complete demographic details of all the patients were obtained from 100 cases data record files. Complete obstetric history, obstetric risk factors and complete relevant medical history were taken. Detailed information in relation to maternal morbidity and maternal mortality was also obtained. All the results were recorded in Microsoft excel sheet and were analyzed by SPSS software.

Results: Among all patients maximum patients were between 21 to 30 years of age (47%). Of the total case 41% were booked cases, 59% were multipara, 11% had history of intra uterine death. Pregnancy induced hypertension was present in 24 cases. Obstructed labour was present in 17 cases. Congenital anomalies prematurity, intrauterine growth retardation, Prolonged pregnancy, APH medical disorders were significant causes. Cord accidents and unexplained cases were also found. PPH, blood transfusion, sepsis, ARF were reported complications. DIC and multiorgan failure was present in 1 in each group. Maternal mortality was present in 2 cases.

Conclusion: Adequate knowledge of risk factors associated with intra-uterine death is necessary for providing proper antenatal care and early diagnosis of complications and its proper management.

Keywords: Intra-uterine, Death, Maternal

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INTRODUCTION

Pregnancy and child birth, though physiological processes, are not free of risks. Despite continuous efforts by government and non-government organizations to cut down maternal mortality and to improve health services, maternal mortality is still high in most of the developing countries. The factors influencing good or adverse maternal outcome include the place of residence, socio-economic status, level of education especially in females, and other social and cultural factors.¹⁻³ Intrauterine fetal death (IUFD) is defined by the international classification of diseases as antenatal or intrapartum death after 22 completed weeks of gestation. Its incidence varies in literature since gestational age for defining IUFD is not uniform. Also, its incidence differs among population groups, with South Asia and Sub-Saharan Africa accounting for two-thirds of these deaths. The incidence in Indian population is 32 per 1000 live births with a marginally high incidence in rural than in the urban population.⁴⁻⁶

The mode of antepartum and intrapartum surveillance for fetal wellbeing has advanced in last few decades. There are so many maternal conditions and diseases that are responsible for poor obstetrical outcomes. Stillbirth is a useful index to measure the values of antenatal and intranatal care. By proper antenatal check-ups, the high-risk cases associated with poor outcomes can be identified.⁷ Hence; the present study was undertaken for assessing 100 cases of intra-uterine fetal deaths and maternal morbidity at a tertiary care center.

MATERIAL AND METHODS

The present study was conducted in the department of gynaecology of the medical institute and it included assessment of characteristics and associated maternal outcome and maternal morbidity of 100 cases of intra-uterine fetal deaths at a tertiary care center. Ethical approval was obtained from institutional ethical committee in written after explaining in detail the entire research protocol.

Complete demographic details of all the patients were obtained from data record files. The details of complaints at admission, obstetrics history, menstrual history, examination findings, per vaginal examination findings, mode of delivery and fetal outcomes, placental examination, condition of cord and investigation reports were recorded. Complete obstetrical

history and peri-treatment details were also obtained. The records were studied and complaints were evaluated that consisted of bleeding per vaginum (PV), duration of labor pains, pregnancy induced hypertension (PIH) or eclampsia, history of leaking, decreased or loss of fetal movements. The exclusion criteria were records of babies born below 28 weeks of gestation, fetus weighing below 1000 g and twin babies. Separate master chart was made for assessing the risk factors of intra-uterine fetal deaths. Detailed information in relation to maternal morbidity and maternal mortality was also obtained.

The details were entered in a preformed proforma. The obstetrical history was also studied which included parity, stillbirth, abortions, neonatal death, lower segment cesarian section (LSCS), preterm delivery, antepartum hemorrhage (APH) or PIH in a previous pregnancy. The records of per vaginal findings were evaluated.

Parameter		Number of patients
Type of admission	Emergency	59
	Registered	41
Age	Less than 21	24
	21 to 30	47
	More than 30	29
Parity	Primi-gravida	41
	Multi-gravida	59
Past obstetric history	h/o abortion	12
	h/o IUFD	11
Residence	Rural	53
	Urban	47

Table-1: Demographic data

Type of malformation	Number of patients	Percentage
Hydrocephalus	2	2
Anencephaly	3	3
Multiple congenital anomalies	2	2
Spina bifida	1	1
Omphalocele major	2	2

Table-2: Congenital malformations

Cause	Number of patients	Percentage of patients
Pregnancy induced hypertension	24	24
Placenta Previa	5	5
Prolonged pregnancy	5	5
Hyperpyrexia	3	3
Maternal medical conditions	Jaundice	4
	Diabetes	5
	Severe anaemia	12
Congenital anomalies	10	10
Cord Accidents	3	3
PROM	4	4
Unexplained	15	15
Abruptio placenta	10	10

Table-3: Causes of intrauterine fetal death

STATISTICAL ANALYSIS

All the results were recorded in Microsoft excel sheet and were analyzed descriptively using mean and percentages.

RESULTS

In the present study, a total of 100 cases were enrolled. Table-1 shows the demographic details of the study groups. Mean age of the patients was found to be 28.4 years. In 59 patients, type of admission was emergency in nature. In 41 percent of the patients, parity was primi-gravida, history of abortion was found to be present in 12 patients. 53 patients were of rural residence. All the cases were of intra-uterine fetal deaths. Table 2 shows the congenital malformation present among the cases (found on autopsy). Anencephaly was found to be present in 3 cases. Hydrocephalus was present in 2 cases. Multiple congenital anomalies were present in 2 cases. Spina bifida was present in 1 case. Omphalocele major was present in 2 cases.

Table 3 shows the causes of intra-uterine fetal death. Pregnancy induced Hypertension was found in 24% of patients. Placenta previa, prolonged pregnancy and hyperpyrexia was present in 5, 5 and 3 cases respectively. Under maternal medical conditions, jaundice, diabetes and severe anemia were cause of death in 4, 5 and 12 cases respectively. Congenital anomalies were present in 10 cases, 15 cases had unexplained death and cord accidents were found in 3 cases. Premature rupture of membranes (PROM) was found in 4 cases.

Maternal complications found in the study were blood transfusion in 20 cases, PPH in 12 cases, sepsis in 10 cases and ARF in 1 case. DIC and multiorgan failure were present in 1 in each group. Maternal mortality was present in 2 cases (table-4).

DISCUSSION

Intrauterine Fetal Demise (IUFD) is the greatest affective disorder at any time of pregnancy but the emotional and emotional pain created by this event increases in direct

Complication	Number of patients	Percentage
Blood Transfusion	20	20
PPH	12	12
Sepsis	10	10
ARF	1	1
DIC	1	1
Multiorgan Failure	1	1
Maternal Death	2	2

Table-4: Maternal Complications

relation to pregnancy. There are many essentials for mother, neonatal and baby health around the world. There is increasing attention and investment in the maternal and neonatal health care sector but children are still being read or written. The death of a child is a tragedy for parents and caregivers. Complex threads of events often precede the death of a child. Health care workers are responsible for supporting families and investigating the cause of death.⁷⁻¹⁰ Hence; the present study was undertaken for assessing 100 cases of intra-uterine fetal deaths at a tertiary care center.

In the present study, a total of 100 cases were enrolled. All the cases were of intra-uterine fetal deaths. Anencephaly was found to be present in 3 cases. Hydrocephalus was present in 2 cases. Multiple congenital anomalies were present in 2 cases. Spina bifida was present in 1 case. In a previous study conducted by Bastianelli C et al, authors analyzed the profile of intrauterine death cases at a tertiary centre. For each case, age of the patient, parity, country of origin, gestational age at the moment of stillbirth, clinical condition before pregnancy, pathologies occurred during pregnancy, possible therapies and autopsy of the fetus, have been collected. Results of Bastianelli C et al showed that among 25892 labours, 186 were intrauterine deaths (7.2%). In 1999 we noticed a decrease in the number of labours of approx. 30%, due to a reduction in the number of inpatients available spaces. The number of stillbirths presented a slithering line until 2001, while after then a marked decrease has been observed. A high percentage of stillbirths had to be classified as "unknown causes" (26.9%).¹¹

In the present study, Pregnancy induced hypertension was present in 24 cases. Placenta Previa was present in 10 cases. Sharma S et al studied the maternal and fetal factors associated with intrauterine fetal death. The number of intrauterine fetal deaths was reported among 6942 requirements made during the study period. The rate of intrauterine fetal death was 36/1000 live births. Two hundred and twenty-two deliveries would have been documented and not monitored. Other notables were rural (58%), low socioeconomic group (71.2%), previous birth (9.2%), hypertension (32.8%), anemia (74.4%), antepartum hemorrhage (18.8%) and birth defects (CMFs) (8.8%). The incidence of intrauterine fetal death in their population was higher than that reported in developed countries.¹²

In the present study, maternal medical conditions and prematurity were the cause of death in 2 cases respectively.

PPH in 12 cases, blood transfusions in 20 cases, sepsis 10 cases and ARF in 1% were reported complications. DIC and multiorgan failure were present in 1 in each group. Maternal mortality was present in 2 cases. Azim AK et al assessed the socio-demographic profile and to identify the risk factors of ante-partum fetal death which occurs after the age of viability of fetus. Out of 83 patients, maternal risk factors were identified in 41(49.59%) cases where fetal risk factors were found in 16(19.27%) cases; no risk factors could be determined in rests. Hypertension (48.78%), diabetes (21.95%), hyperpyrexia (17.3%), abruptio placentae (4.88%) and UTI (7.36%) were identified as maternal factors; and congenital anomaly (37.5%), Rh incompatibility (37.5%), multiple pregnancy (12.5%) and post-maturity (12.5%) were the fetal risk factors. They concluded that proximal biological risk factors were most important in ante-partum fetal deaths.¹³

Maternal morbidity was present in 2 cases in present study. In another study conducted by Manocha A et al, authors assessed the characteristic of cases of Placenta in intrauterine fetal demise (IUFD). The lesions were divided into (A) maternal vascular malperfusion (MVM) including retroplacental hematomas, (B) fetal vascular malperfusion (FVM), (C) inflammatory lesions, and (D) idiopathic. Intraoperative injury to the coronary artery was the highest (30%), followed by the mother and joint FVM (10%). Differential inflammatory lesions with FVM were seen in 12 and 6%, respectively. No reason was identified at 18%. Lesions showing fetal hypoxia were noted in 35 cases. In both the early and late PT, the MVM was included significantly (23 and 5%). With the term placentas, the most common cause was idiopathic. MVM lesions were a common cause of IUFD and served as a direct contributor to fetal deterioration.¹⁴ Ifnan F et al determined maternal morbidity and maternal death after intrauterine fetal death (IUFD) and localization of fetal destruction procedures and cesarean section. All women were included in his study presented before the onset of labor pains, after intrauterine death 28 weeks or continued in one pregnancy. There were 1834 births and 63 births with the death of intrauterine fetuses. Maternal deterioration such as perineal constipation, urinary tract infection, menstrual abnormalities and infertility may follow postnatal and perinatal procedures.¹⁵

CONCLUSION

From the above results, the authors concluded that adequate knowledge of risk factors associated with intra-uterine death is necessary for providing proper antenatal care and early diagnosis of complications and its proper management. However; further studies are recommended.

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