



STUDY OF CAUSES AND MATERNAL OUTCOMES IN CASES OF INTRAUTERINE FETAL DEATH IN A TERTIARY CARE HOSPITAL

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ABSTRACT **BACKGROUND:** Intra Uterine Fetal Death (IUFD) is a tragic event for the parents and the treating obstetrician. This study was done to study the causes and maternal outcomes associated with IUFD. Identification of causes of IUFD will be helpful in counseling of parents and for formulating preventive measures. **METHODS:** This is a retrospective study carried out over a period of 6 months in OBGY Department BJMC Civil hospital Ahmedabad. Inclusion criteria for the study were all IUFDs of more than 20 weeks gestation. Total 185 cases of IUFD were studied out of 3596 total deliveries. **RESULTS:** Incidence of IUFD in our hospital was 51.4 per 1000 live births. Out of 185 cases maximum cases were emergency cases. Abruptio placentae contributed to highest number of cases of IUFD. Maximum number of cases were of gestational age 33 to 36 weeks. Maximum number of women had preterm vaginal delivery. **CONCLUSION:** Accidental haemorrhage, PIH and anaemia were leading causes of IUFD. A significant proportion of IUFD is preventable by health education to patients and community for regular antenatal care, about warning signs during antenatal period, hospital delivery and early referral.

KEYWORDS : Iufd, Iud, Intrauterine Fetal Death, Maternal Outcome, Prevalence

INTRODUCTION

Fetal loss directly reflects the obstetrician's vigilance kept during particular pregnancy. For an obstetrician, documentation of primary event or factor which has led to fetal death is of paramount importance. IUFD is really distressing when it occurs without warning in a pregnancy that has previously seemed entirely normal both for mother and her family. Only when probable cause is known the patient can be given guidance for the treatment, prevention and recurrence as required.

METHOD

This is a retrospective study carried out in BJMC, Civil Hospital, Ahmedabad, Gujarat including all cases of IUD with gestational age >20 weeks.

Detailed history of the patient was collected from the hospital records and outcomes were noted.

RESULTS

Incidence of intrauterine fetal death in our hospital was 51.4 per 1000 live births.

As shown in Table 1 there were 82 (44.40%) booked cases and 103 (55.60%) emergency cases. Since it is a tertiary care hospital most of the cases were emergency cases referred from outside.

Among them 146 (78.92%) were between age group of 21-30 years, and 19 (10.27%) were below 20 years.

Majority of the cases (124) were multigravida (67.10%) and (61)32.9% were primigravida.

Table 1. Maternal Characteristics

DETAILS	No.OF CASES (n=185)	PERCENTAGE %
Admission		
Booked	82	44.40%
Emergency	103	55.60%
Age (in years)		
<20	19	10.27%
21-25	94	50.81%
26-30	52	28.11%
>30	20	10.81%
Parity		
Primigravida	61	32.90%
Multigravida	124	67.10%
Past history		
h/o abortions	124	67.00%

h/o IUFD	6	3.30%
not significant	55	29.70%

As shown in Table 2, 46 of the IUFDs were less than 28 weeks (24.8%) of gestation. 100 were between 29-36 weeks (53.9%), 39 were more than 37 weeks (21.0%).

Table 2. Weeks of pregnancy at time of admission

WEEKS OF PREGNANCY	No.OF CASES(n=185)	PERCENTAGE%
20-24	8	4.32%
25-28	38	20.54%
29-32	44	23.78%
33-36	56	30.27%
>37	39	21.08%

As shown in Table 3 different characters of IUDs like gender, weight and mode of delivery were studied.

In present study, out of 185 fetuses – 103 fetuses (55.6%) were male and 82 fetuses (44.3%) were female.

Maximum no. of IUD delivered weighed less than 1000 grams (24.32%).

99 (53.5%) women had preterm vaginal delivery (PTVD), 68 (36.7%) women had full term normal delivery (FTND), 14 (7.56%) women had caesarean section (LSCS).

84.86% cases (157) required induction for labour and 15.14% cases (28) delivered spontaneously.

Vaginal birth can be achieved within 24 hours of induction of labour for IUFD in about 90% of women. In our study 10.82% induced cases took more than 24 hours as shown in table 5.

Only 1 IUD (0.5%) was macerated.

Table 3. Fetal Characteristics

PARAMETERS	No. OF CASES(n=185)	PERCENTAGE %
GENDER		
Male	103	55.60%
Female	82	44.40%
FETAL WEIGHT(Grams)		
<1000	45	24.32%
1000-1500	42	22.70%
1500-2000	32	17.30%

2000-2500	33	17.84%
2500-3000	21	11.35%
>3000	12	6.49%
MODE OF DELIVERY		
FTND	72	38.92%
PTVD	99	53.51%
LSCS	14	7.57%
GROSS FEATURES		
Fresh	184	99.40%
Macerated	1	0.60%

Table 4. Various indications of caeserian section (in this study)

Indication of CS	No. Of cases
Abruption associated with hypertensive disorders in pregnancy	7
Induction failure	2
Hysterotomy for anomaly in fetus	1
Previous 2 CS	1
Previous CS and abruption	1
Severe anemia with abruption	2

Table 5. Time of admission to delivery interval (in this study)

Admission to delivery interval	No. of cases
< 12 hours	76
12 -24 hours	89
>24 hours	20

As shown in Table 6 Cause of IUFD was not identifiable in 28(15.14%) cases. Abruptio placentae contributed to highest number of cases of IUFD i.e 30 (16.2%). IUFD occurred in 29(15.68%) cases of pre eclampsia, 26 (14.05%) cases of gestational hypertension and 7(3.78%) cases of eclampsia.

Table 6. Risk Factors

RISK FACTORS	No. OF CASES	PERCENTAGE %
Abruption	30	16.22%
Pre eclampsia	29	15.68%
Gestational Hypertension	26	14.05%
Eclampsia	7	3.78%
Anemia	7	3.78%
Thrombocytopenia	7	3.78%
Chronic hypertension	6	3.24%
Jaundice	6	3.24%
Oligohydraminos	6	3.24%
Congenital anomaly	6	3.24%
Past history of IUFD	6	3.24%
Rh negative	5	2.70%
IUGR	4	2.16%
Fever	3	1.62%
GDM	2	1.08%
Polyhydraminos	2	1.08%
Hypothyroidism	2	1.08%
H1N1	2	1.08%
Hbe reactive	1	0.54%
Unexplained	28	15.14%

As shown in Table 7, DIC was present in 34 (18.37%) cases, 3 cases (8.8%) of DIC were due to IUD, sepsis present in 18 (9.72%) cases, and Acute Renal Failure (ARF) occurred in 8 (4.32%) cases which was managed by hemodialysis.

Table 7. Maternal complications

MATERNAL COMPLICATIONS	No. OF CASES	PERCENTAGE %
Disseminated intravascular coagulation (DIC)	34	18.37%
Sepsis	18	9.72%
Acute Renal Failure	8	4.32%

Table 8. Transfusion of blood components

BLOOD COMPONENTS	No. OF CASES	PERCENTAGE %
Packed cell volume (PCV)	36	19.50%

Fresh frozen plasma (FFP)	38	20.50%
Platelet rich concentrate (PRC)	33	18.10%
Cryoprecipitate	2	1.08%

As shown in Table 8. PCV was transfused in 36 (19.50%) cases. Blood components were given in the form of FFP, PRC and cryoprecipitate in 38 (20.50%), 33 (18.10%) and 2 (1.40%) cases respectively. In most cases more than one components were given to patient.

DISCUSSION

In present study, percentage of IUFD was higher among 103(55.6%) emergency admissions compared to 82 (44.3%) registered admissions.

The incidence of IUFD reported from western countries ranges from 4.7% to 12.0% and incidence of IUFD in India, reported from various centers ranges between 24.4-41.9%.

Frett et al. has concluded that age of 35 and more can increase risk of fetal death at the rate of 1.5 times. In present study 20 cases (10.81%) had age more than 30 years.

In a study by Safarzadeh A, among 807 totals IUFD, there were 410 (50.8%) male dead fetus and 397 (49.1%) female dead fetus.

Pregnancy outcome is influenced by parity of the patient. In present study proportion of IUFD was higher in multigravida 124(67%). Korde-NV et al. observed 51.6% of multigravida who had stillbirths.

In our study, 124 (67%) had a past history of reproductive loss in the form of abortion and history of IUFD in 6 (3.2%) cases. Past obstetric history of pregnancy loss increases chances of recurrence if the previous loss is due to Antiphospholipid Antibody Syndrome (APS). Prematurity and Intra Uterine Growth Restriction (IUGR) is another risk factor for fetal death. Chitra K et al.13 reported 57.8% of IUFD were preterm. Al Kadri et al. reported ten fold increase risk of IUFD in patients having IUGR. Pregnancy losses associated with placental insufficiency and preterm labor are more likely to recur.

In present study percentage of hypertensive disorders of pregnancy in IUFD accounts 30.7 % and in Chippa S et al study it is 24.39%.

The percentage of abruptio placentae in Swapnil et al study was – 7.28%, Yogesh et al study 12%, and Nayak S R et al is 10.71%. In present study, it was 16.2%, which is correlating with Yogesh et al study.

The percentage of oligohydramnios in Yogesh et al study is 3%, and Nayak SR et al is 7.14%. In the present study it was 3.78%, which is similar to Yogesh et al.

The Rh isoimmunisation as a cause of fetal demise was found to be 4.8% in Sangeetha et al and 2.64% in Shaheen S et al and 2.70% in our study which is similar to Shaheen et al study.

Congenital Anomalies in Sangeetha et al study was – 7.31%, Shaheen S et al study is 19.86%, and Ruth C et al is 14%.^{xxii} In the present study it was 3.24%.

Unexplained cause in Shaheen S et al study was 6.2%, 35% in Yogesh et al and 19.1% in Choudri A et al. In our study it was 15.14%, which is correlating with Choudri A et al study.

Korde-NV et al. reported the most common cause for IUFD was abruptio placenta 21.9%. In present study abruption accounted for 16.2%.

There is also a moderate risk of maternal disseminated intravascular rcoagulation (DIC): 10% within 4 weeks after the date of late IUFD, rising to 30% thereafter.

CONCLUSION

A significant proportion of IUFD is preventable by health education to patients and community for regular antenatal care, about warning signs during antenatal period, hospital delivery and early referral.

Accidental hemorrhage, PIH and anemia are important causes of

IUFD. Even an attempt to prevent IUFD in PIH and abruptio placenta may cause IUFD because of its unpredictable severity.

Congenital anomalies are unavoidable cause of IUD.

By understanding the contributing factors, we can find ways of avoiding recurrence by proper antenatal care and early diagnosis of complications and its proper management. Antenatal screening for anemia, preeclampsia, GDM, previous pregnancy loss and antenatal supervision can play an important role in decreasing the incidence of IUFD.

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