

Intrauterine Fetal Deaths: A Study in Tertiary Care Center

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Abstract:

Background: Intrauterine fetal death (IUID) is very disheartening in both the parent's and the treating obstetrician's life. Many a times the cause of the IUID is not diagnosed, but when the cause is diagnosed an effective plan can be plotted and appropriate measures can be taken to prevent the same.

Objective: To study the prevalence of the IUID in a tertiary care center, the cause, socio-epidemiological causing the intrauterine fetal death [IUID].

Materials and Methods: A retrospective observational study was conducted in the ESI Medical College, Bangalore over a period of 3 years between January 2015 and December 2017. A total of 107 cases of IUID was included in the study.

Result: A total of 10,190 deliveries were conducted over a period of 3 years, 107 number of IUID were recorded, making the prevalence to be 1.05%. In the present study the majority of the cases were multigravidae with a positive past history of abortion (15.8%), preterm labour (12.2%) and IUID (4.6%). 15 (14%) of the women had no definitive cause of the IUID. 21 (19.6%) of the women had hypertensive disorders of pregnancy and 1 (0.9%) of them had abruption. 10 (9.3%) of the women had GDM, with uncontrolled sugar and needed regular alteration in the insulin dose. Vaginal delivery was conducted in 102 (95.3%) of the patients and 5 (4.7%) needed surgical intervention. The commonest complications associated with IUID was DIC 3 (2.8%), followed by sepsis 2 (1.8%).

Conclusion: In the present study, the most common cause for IUID was hypertension complicating pregnancy (19.6%). In spite of the advance in diagnostic modalities the rate of IUID is still on the higher side, which is unacceptable. The socio-economic factors had a major role to play with lack of ANC checkup, poverty and illiteracy topping the list. Most of the fetal wastage can be prevented with regular ANC, early detection of medical disorder complicating pregnancy and disorders of pregnancy.

Keywords: Intrauterine fetal death, preeclampsia, abruption, maternal factors

1. INTRODUCTION

IUID is a tragedy not only to the mother but also the family and the treating obstetrician. WHO defined IUID as "Death prior to expulsion or extraction of a product of human conception from its mother, irrespective of duration of pregnancy and which is not an induced termination of pregnancy, death indicated by fact that after such separation fetus does not show any evidence of life such as beating of heart, pulsation of cord, or definite movement of voluntary muscles. Heartbeats are to be distinguished from transient cardiac contraction; respirations are to be distinguished from fleeting respiratory effort or gasps".⁽¹⁾

expressed as per 1000 of total births Stillbirth is defined as in utero fetal death at 20 weeks of gestation or greater. Whereas according to the perinatal mortality surveillance report (CEMACH) stillbirth is defined as a baby delivered with no signs of life known to have died after 24 completed weeks of pregnancy.⁽²⁻⁴⁾

In a developing country, India the rate of IUID is 9 per 1000 whereas the rate of perinatal deaths is 32 per 1000 live births according to the Indian census of 2006⁽⁵⁾. The lowest rate of IUID is recorded in Finland and Singapore, which is as low as 2 per 1000 births and highest in Pakistan 47 per 1000 and 42 in Nigeria⁽⁶⁾.

2. MATERIALS AND METHODS

A retrospective observational study was conducted in the ESIC medical college, Bangalore over a period of 3 years from January 2013 to December 2016.

Fetal demise in utero beyond 20 weeks' period of gestation and or weight of more than 500 grams were included in the study. Patient records in the form of age, obstetrics index, associated risk factors in the form of preeclampsia, GDM, oligohydramnios, polyhydramnios, Rh negative pregnancy were tabulated. Records of mode of delivery, baby details like weight, gross anomalies, liquor, macerated/ fresh still born, placental morphology was recorded. Data thus recorded was analyzed in SPSS 18.0 software. The variables were expressed as mean, and the quantitative variables as percentages.

3. RESULTS

In our study we had a total of 10190 deliveries over a period of 3 years. Intrauterine fetal demise 10.5 per 1000 live births. Of whom 72 (67.2%) had regular ANC.

Table1. Maternal characteristics

Details	Number	Percentages (%)
AGE		
<20 years	7	6.5
21-25	32	29.9
26-30	47	43.9
31-35	12	11.3
>35 years	9	8.4
Parity		
Primigravida	28	26.2
multigravida	79	73.8
Past history		
h/o abortion	17	15.8
h/o preterm	13	12.2
h/o IUFD	5	4.6
Complains		
Absent fetal movements	52	48.6
Reduced fetal movements	37	34.6
Pain abdomen	10	9.4
Leak p/v	8	7.4
Period of gestation(weeks)		
20-24	18	16.9
25-28	34	31.7
29-32	34	31.7
33-36	9	8.4
>/=37	12	11.3

Out of which 52 cases (43.3%) were referral cases. Majority of the cases (n=73) were

multigravida (60.8%) and 39.1% were primigravida (n=47). The mean parity was 2.05 (std deviation-1.0359) Majority of patients were aged less than 30 years (n=96,80%) with the mean age of 25.72 (std deviation-4.4964) with 28 to 36 weeks' period of gestation (n=66,55%).The mean gestational age was 29.71 weeks with standard deviation of 5.3376. 40 patients(33.3%) had IUFD at < 28 weeks of gestation. 11.7% (n=14) of the patients had term IUFD. 91 patients had presented with absent fetal movements (75.8%) while 10% (n=12) came with decreased fetal movements. 4.2% (n=5) of patients were admitted with pain and 1.7% (n=2) with leak per vagina (Table 1)

Table2. Causes of IUFD

Cause of IUFD	Number	Percentage (%)
Hypertensive disorder of pregnancy	21	19.6
Abruption	1	0.9
Eclampsia	4	3.7
GDM	10	9.3
Oligohydramnios	2	1.8
Polyhydramnios	0	0
Anemia	9	8.3
Thrombocytopenia	2	1.8
Rh negative pregnancy	6	5.6
Hypothyroidism	8	7.3
Anomalies	22	20.4
Cord accidents	8	7.3
Jaundice	0	0
Unexplained	15	14

Table 2 depicts the cause of the IUFD, 21 (19.6%) of the women had elevated blood pressure and 10(9.3%) of them had gestation hypertension.

15 (14%) of the women had no known cause of IUFD. 6(5.6%) of the women had a rhesus negative blood group and the cause of the IUFD was hydrops in all of them.

Table3. Fetal Characteristic

Fetal characteristics	Number	Percentage %
Anomalies	22	20.5
Meconium stained liquor	26	24.3
Macerated	35	32.7
Still birth	72	67.2
Tight loop of cord round the neck	14	13
True knots	6	5.6

Anomalies was noted in 22 women, of whom 16 had not performed the anomaly scan and 6 of them had a significant previous history of anomalies fetus. 72 (67.2%) of the feus where

still born in comparison to macerated fetus which was noted in 35 (32.7%) of the fetus.

Table 4. Maternal Complications

Complication	Number	Percentage
DIC	4	3.7
Sepsis	9	8.4
Acute renal failure	2	1.8
Maternal mortality	0	0

Maternal complication in our study was predominantly sepsis seen in 8.4% of the women of, more so in women with prolonged leak and prolonged labor. DIC was seen in 4 women, and they were managed in the medical ICU and with blood / blood product transfusions.

4. DISCUSSION

In the study we have conducted in our center we found the prevalence to be 1.05%, in comparison to the study conducted by Divya et al where the incidence was 29.2 per 1000 and Maleckiene L et al the IUFD was 40 per 1000⁽⁷⁻⁸⁾. The rate of the IUFD varies widely over the country with a still 14% in Karnataka^(8,9). Patel et al reported that the incidence was much higher in those women who tend to seek admission on emergency grounds 56(70%) in comparison to registered admission 24(30%)⁽¹⁰⁾. 73.8% of the women were multigravida whereas as 26.2% were primigravida in our study, which is the marginally reduced in the study done by Divya et al (60.8%) and Korde-NV et al (51.6%)^(7,11).

In our study women between the age group <30 years had the highest prevalence of IUFD of 80.3% and women more than 35 years was 8.6%, which was similar in the study conducted by Divya et al. of 80%⁽⁷⁾. 4.6% of the women had a previous history of IUFD at the similar gestation age and also all of them had a history of elevated blood sugar. 63.5% of the women had IUFD between 25-32 weeks' period of gestation and 11.3% of them after 37 weeks' period of the gestation. This is comparable to the study by Patel et al, 50(62.5%) was between 25-32 weeks⁽¹⁰⁾ past history of recurrent loss was noted in 11.2%, of whom 6.5% were proven case of Antiphospholipid Antibody Syndrome (APS) and were treated with low dose of aspirin and low molecular weight heparin⁽¹²⁾. 48.6% of the women had absent fetal movement, 34.6% of the women had reduced fetal movement and 9.4% had history of pain abdomen, in comparison to the study conducted by Divya et al where 75.8% of the

patients had presented with absent fetal movements while 10% had come with decreased fetal movements.

Over the past years the causative agent for IUFD have been on a changing trend. In a developed country the incidence of IUFD is reduced and also if the etiological pattern for the same⁽¹³⁾. The most common causes in the past was syphilis, Rh isoimmunisation and post-dated which is no longer significant due to the usage of Rh immune prophylaxis, routine ANC check-up and VDRL screening⁽¹⁴⁾. Intrapartum loss is very much reduced due to active use of electronic fetal monitoring. In today's world newer causes like thrombophilias, intrahepatic cholestasis of pregnancy has been recognized. In our study 19.6% had hypertension complicating pregnancy, 9.3% had gestation hypertension and 0.9% of them had abruption. Many of the other study have reported the cause of PIH and eclampsia to be 33.7%. Divya et al had reported the prevalence of the GDM to be 4.2 whereas Anjali C to be 4.1%⁽¹⁵⁾. In present study, 14% had unexplained IUFD as compared to 38.7% in Patel S et al study and Singh N et al it was 33%, which was very much higher⁽¹⁰⁾.

Meconium stained liquor was noted in 24.3%, anomalies in 20.5, loop round the neck was 13% and true knot in 5.6%. in comparison to the study conducted by Divya et al was 4.2% of women with loop round the neck and 0.8% with true knot⁽⁷⁾. 67.2% were fresh still births whereas 32.7% were macerated which is the very similar to study by Katherine J. Gold et al in which 33 (70%) foetuses were fresh and 14 (30%) were macerated (16)

A hospital stay of >7 days was noted in 10.2% of the women, predominantly in those who needed ICU care, which was similar to the study conducted by Divya et al (7). 3.7% of the women has DIC, 8.4% of them developed sepsis and 1.8% of them were diagnosed to have acute renal failure. There was no maternal mortality due to IUFD in our centre. 12.14% of the women needed blood transfusion in our study which was similar to that in the study conducted by Divya et al (7)..

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Citation: Dr. Chaitra S, Dr. Preeti Malapure, Dr. Sandeep, Dr. Ashok Kumar & Dr. Renuka Ramaiah, “Intrauterine Fetal Deaths: A Study in Tertiary Care Center”. *ARC Journal of Gynecology and Obstetrics*.2018; 3(1):7-10. [dx.doi.org/10.20431/2456-0561.0301002](https://doi.org/10.20431/2456-0561.0301002).

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