Research Article

A study of intrauterine fetal death in a tertiary care hospital

Divya B.*, Ashwini Nayak U., Asha Swarup O.V.

Department of Obstetrics and Gynaecology, M. S. Ramaiah medical college and Teaching Hospital, Bangalore, India

*Correspondence:
Dr. Divya B.,
E-mail: divya_balu89@yahoo.com

ABSTRACT

Background: Intra uterine fetal death (IUFD) is the most traumatic event for the parents and the treating obstetrician. If the causes of IUFD can be found, an effective strategy for prevention can be formulated. This study was done to study the etiological factors and other determinants of IUFD.
Methods: A retrospective observational study was carried out in M. S. Ramaiah medical college and teaching hospital, Bangalore, India between December 2011 to December 2014. 120 cases of IUFD were included in this study.
Results: Out of 4103 deliveries that occurred during the study period, there were 120 IUFD (2.9%). 52 cases (43.3%) were referral cases. Majority were multigravida(n=73,60.8%) aged less than 30 years (n=96,80%) with 28 to 36 weeks period of gestation(n=66,55%).91 patients had presented with absent fetal movements(75.8%).In 25% of the cases(n=30) there was preeclampsia and in 21.6% (n=26)of the cases there were no causes determined.99.1%(n=119) delivered by vaginal route.
Conclusions: The leading cause of IUFD in our study was preeclampsia. Majority of the cases were referred and they did not have regular antenatal checkups. A bigger impact in reduction of IUFD can be achieved if the importance of antenatal care can be stressed upon at the community level.

Keywords: Intra uterine fetal death, Risk factors, Stillbirth, Maternal factors

INTRODUCTION

Intrauterine fetal death is a tragic experience for not only the couple but also to the treating clinicians. The perinatal mortality surveillance report (CEMACH) defined stillbirth as a baby delivered with no signs of life known to have died after 24 completed weeks of pregnancy World Health Organization-a stillbirth refers to a dead born fetus which can either occur before the onset of labour (ante-partum death) or during labour (intra-partum death) and is expressed per 1000 of total births Stillbirth is defined as in utero fetal death at 20 weeks of gestation or greater.[1-3] The stillbirth rate varies sharply by country, from the lowest rates of 2 per 1000 births in Finland and Singapore and to highs of 47 in Pakistan and 42 in Nigeria and rates also vary widely within countries like in India, for example, rates range from 20 to 66 per 1000 births in different states.[4] This study helps us to understand the risk factors associated with intrauterine fetal death and thereby help in preventing the recurrences.

METHODS

This is a retrospective study conducted in M. S. Ramaiah medical college and teaching hospital from December 2011 to December 2014. Intrauterine fetal deaths above 22 weeks period of gestation and or above 500 grams of weight were included. Detailed history of the patient was collected from the hospital records- such as Age, parity index, referred or a booked case, associated risk factors such as preeclampsia, GDM, Rh negative pregnancy, and oligohydramnios. Data regarding the mode of delivery and the baby details such as birth weight, macerated or

fresh still born, placental pathology and presence of retro placental clots were recorded.

Statistical analysis

All the data analysis was carried out employing SPSS 18.0 version. All the quantitative variables were expressed as mean and standard deviation. Qualitative variables were expressed as percentages.

RESULTS

Table 1: Maternal characteristics.

Age	No. of cases	%	
<30 years	96	80	25.72 (SD-4.4964
>30 years	24	20	
Parity			2.05 (SD-1.0359)
primi	47	39.1	
multi	73	60.8	
Period of gestation			29.71 weeks (SD-5.3376)
< 28wks	40	33.3	
28-36	66	55	
37-42	14	11.7	
Complaints			
Absent fetal movements	91	75.8	
Decrease fetal movements	12	10	
Pain abdomen	5	4.2	
Leak pv	2	1.7	

During the period of this study, there were 4103 deliveries. Out of which 120 cases were intrauterine fetal death (2.9%). Incidence of intrauterine fetal death in our hospital was 29.2 per 1000 live births 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). Out of 120 patients with IUFD, 25% (n=30) had preeclampsia, 9.2% (n=11) had hypothyroidism, 7.5% (n=9) of oligohydramnios and IUGR, 6.6% (n=8)with anaemia, 5.8% (n=7) had GDM, 4.2% (n=5) with previous history of IUFD, 3.3% (n=4) with Rh –ve status, 2.5% (n=3) each of gestational hypertension, chronic hypertension and abruption, 1.7% (n=2) with antepartum eclampsia and 0.8% (n=1)with previous history of abruption. In 21.7% (n=26) there were no causes found (Table 2). The severe complication noticed in the mother were -15% (n=18) of patients needed blood transfusion due to DIC, 4.2% (n=5) had a

prolonged stay in the hospital for more than 7 days, 3.3% (n=4) needed ICU care and 0.8% (n=1) had postpartum psychosis (Table 3). 99.1% (n=119) had vaginal delivery out of which 28.3% (n=34) had spontaneous onset and 70.8% (n=85) were induced. Only 1 patient had LSCS. Fetal characteristics revealed 51.6% (n=62) were males while 48.6% (n=58) were females. 68.3% were fresh still births (n=82) and only 31.7% (n= 38) were macerated.1 fetus was born with a true knot of the umbilical cord, 5 (4.2%) had tight cord around neck (Table 4).

Table 2: Causes.

Maternal characteristics	No of cases	Percentage
Preeclampsia	30	25%
Abruption	3	2.5%
Previous h/o abruption	1	0.8%
Antepartum eclampsia	2	1.7%
Gestational HTN	3	2.5%
Chronic HTN	3	2.5%
IUGR	9	7.5%
Oligohydramnios	9	7.5%
GDM	7	5.8%
Anemia	8	6.6%
Thrombocytopenia	6	5%
Hypothyroidism	11	9.2%
Rh –ve status	4	3.3%
Previous h/o IUFD	5	4.2%
Unexplained	26	21.6%

Table 3: Complications.

Maternal complications	No of cases	Percentage
Blood transfusions	18	15%
ICU care	4	3.3%
Sepsis	3	2.5%
Hospital stay > 7 days	5	4.2%
Postpartum psychosis	1	0.8%

Table 4: Fetal characteristics.

Fetal characteristics	No of cases	%
Sex-male	62	51.6%
Sex-female	58	48.3%
Gross features macerated	38	31.7%
Fresh stillbirths	82	68.3%
Tight cord around neck	5	4.2%
True knot of cord	1	0.8%

DISCUSSION

In the present study, incidence of IUFD was 29.2 per 1000. In study by Maleckiene L and Singh N et al the IUFD rate was 40 per 1000.The stillbirth rate varies across the country with Karnataka having a stillbirth rate

of 14.[5-7] In a study by Patel S et al, incidence of IUFD was higher among 56 (70%) emergency admissions compared to 24 (30%) registered admissions.[8] In the present study, out of 120 IUFD cases, 52 cases (43.3%) were referral cases. Majority of the cases with IUFD were multigravida (60.8%).This is similar to the study by Korde-NV et al. in which 51.6% of the multigravida had stillbirths.[9] 80% of patients were aged less than 30 years in our study which is similar to the study by C Okeudo et al in which the age group of 26-30 had the highest stillbirth prevalence of 79 (38.3%, 79/206).[10] 55% of the IUFD occurred between 28 to 36 weeks period of gestation. This is comparable to the study by Patel S et al, 50 (62.5%) were between 25-32 weeks of gestational age.[8] In our study 75.8% of the patients had presented with absent fetal movements while 10% had come with decreased fetal movements. In study by Tamrakar SR et al, in more than half of the recorded cases (54.7%) the complaint was of reduced or absent foetal movements.[11] In our study history of previous IUD was seen in previous history of IUFD in 3.3% similar to study by Singh N et al in which it was 4.05% cases.[6] In the present study, 25% had preeclampsia and 2.5% had abruption. Most of the other studies such as study by Patel S,PIH and eclampsia together accounted for 27 (33.7%) cases of IUFD and abruptio placenta due to PIH accounted for 10 (12.5%).[8] In the present study GDM contributed to 4.2% of the IUFD which is similar to study by Anjali C.[12] In present study, 21.7% were unexplained IUFD as compared to 38.7% in Patel S et al study and Singh N et al it was 33%.[6,8] 1 fetus was born with a true knot of the umbilical cord and 4.2% had tight cord around neck in this study which concurs with study by Singh N in which cord complications like cord prolapse and true knot was seen in 4.72% of patients.[6] In this study, 51.6% of the dead fetus were males and 48.6% were females. 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.[13] 68.3% were fresh still births and only 31.7% were macerated which is similar to study by Katherine J. Gold et al in which 33 (70%) fetuses were fresh and 14 (30%) were macerated.[14] 99.1% had vaginal delivery in our study while the mode of delivery was vaginal in 87.4% in study by Ifnan F et al.[15] Duration of hospital stay >7 days was seen in 9.45% patients in Singh N et al study while in our study 4.2% had a prolonged hospital stay.[6] In this study 15% received blood transfusion due to DIC compared to Patel S study in which DIC occurred in 22.5% and all of them required transfusion of blood components.[8]

CONCLUSION

IUFD rate still remains high. As seen in this study majority of the cases have been referred and most of the women have not had antenatal care regularly. Better antenatal care and evaluation of the cases can help in reducing this tragic event.

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