

Study of Intrauterine Foetal Death in Government Medical College in Tribal Area of Bastar

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ABSTRACT

BACKGROUND

IUFD is a major obstetrical complication and is an important indicator of perinatal health in a given population. Literally, intrauterine foetal death (IUFD) is considered as all foetal deaths weighing 500 g or more occurring both during pregnancy and during labour. We wanted to assess maternal and foetal factors associated with intrauterine death, and formulate effective strategies for prevention of IUFD.

METHODS

This was a prospective study carried out in a GMC Jagdalpur from July 2019 to mid-November 2019. All the admitted patients of our department with gestational age >28 weeks (confirmed by LMP or by USG) diagnosed as having IUFD (confirmed by USG) were included in the study.

RESULTS

Total number of deliveries during the study was 1455 and total number of IUFD was 109. Incidence of intrauterine death was 7.49%. Majority of the cases were of age group 26-30 years that is 39.44% (43/109) while teenager (16-20 years) pregnancies were only 11.92%. Most of the cases were preterm (67/109) around 61.46% and only 2.75% cases were post term. In 22.01% (24/109) cases, causes were not identified while in 77.99% cases (85/109) causes were identified. Hypertensive disorder was the major cause of IUFD (27.5%) followed by unknown aetiology (22.01%), infection (14.67%) and rupture uterus (10.09%). Rural population was 66.97% and urban population was only 33.02%. Most of the cases were primipara 43.11% (47/109) while least number of cases 8.25% (9/109) was of grand multipara.

CONCLUSIONS

Despite being a tertiary center, incidence of IUFD is much higher than other areas of our country. Cause may be attributed to lack of awareness, illiteracy, and poor infrastructure in periphery, and this being a referral centre for a large area.

KEY WORDS

Intrauterine Foetal Death, Hypertensive Disorders of Pregnancy, Rupture Uterus, Unknown Cause

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BACKGROUND

ACOG defines IUFD as all foetal deaths past 20 weeks weighing 500 gms or more occurring during pregnancy or during labour.⁽¹⁾ Occurrence of IUFD or still birth can cause a nightmare to the parents and treating clinicians. The incidence of IUFD is estimated to be 3 per 1000 pregnancies in developed countries and as high as 45 per 1000 pregnancies in developing countries. Thus ante partum death occurring beyond the period of viability is termed as IUFD. Still birth is an event which remains always challenging for the obstetrician. It is very agonizing for the attending clinician with the feeling of defeat.

The mode of antenatal & intranatal care is changed in last few decades. There are many clinical maternal and foetal conditions responsible for IUFD & stillbirth. Thus still birth rate acts as a useful index to measure the adequacy of antenatal as well as intranatal care. In developing countries, major cause of IUFD and still birth are intranatal and avoidable while in developed countries it is antenatal and unexplained. By proper antenatal check-ups along with timely interventions incidence of IUFD is declining for last 2-3 decades. Causes of foetal death include foetal causes (25-40%), placental causes (25-35%), maternal causes (5-10%) and in 25-35% cases cause remains unknown. The aim of this study is to analyse the maternal as well as foetal conditions causing IUFD and to find out the preventable cause.

METHODS

This was a single centre retrospective study conducted in GMC Jagdalpur, Bastar, from July up to mid-November 2019. Since the study was retrospective and identities of the patients were treated with full confidentiality and protected, therefore ethical clearance is not needed. No personal data were collected. Total 109 cases of IUFD were taken as study population during this period in tertiary care hospital of Bastar, Chhattisgarh. Data were collected by records on pre structured proforma having details of complaints on admission, obstetric history, menstrual history, P/A & P/V findings, mode of delivery, and condition of the cord as well as investigation reports.

All the cases of IUFD were confirmed by USG. Based on clinical and pelvic examination induction of labour and mode of delivery was decided. Foetal outcomes were recorded included sex of the baby, birth weight, congenital malformations and birth injuries. Findings of placenta like infarction, calcification and retroperitoneal clot and conditions of the cord like knots, cord around the neck and any other abnormalities were recorded

Inclusion Criteria

All diagnosed IUFD > 28 weeks of gestation.

Exclusion Criteria

All abortions were excluded.

Statistical Analysis

Data was analysed by using simple mathematical addition and percentage.

RESULTS

During our study period, in our institute, total number of deliveries was 1450. Out of these 1450 cases, 109 patients were diagnosed and delivered intrauterine dead foetus. We found the frequency of IUFD as 75/1000 deliveries in our institute.

Table 1 shows the demographic characteristics of our study population. In our study maximum number of cases i.e. 43 case of IUFD was seen in 26- 30 years (39.44%) of age group followed by 39 cases of IUFD in age group of 21-25 years (35.77%). 13 cases of IUFD were seen in age group of 16-20 years (11.92%). Least number of cases i.e. 6 cases (5.5%) seen in cases of >35 years.

Maximum number of cases i.e. 73 (66.97%) were from rural area and only 36 cases (33.02%) were from urban area. 62 cases (56.88%) of IUFD were seen in multigravida while only 47 cases (43.11%) were in primigravida. Among multigravida, majority of IUFD were seen in 3rd gravid (26.18%) followed by 2nd gravida (17.43%).

Age in Years	Number of Cases	%
16 -20	13	11.92
21- 25	39	35.77
26-30	43	39.44
31-35	8	7.33
>35	6	5.50
Residence	Number of Cases	%
Urban	36	33.02
Rural	73	66.97
Parity	Number of Cases	%
1	47	43.11
2	19	17.43
3	22	20.18
4	12	11.00
>4	9	8.25
Gestational Age	Number of Cases	%
Preterm	67	61.46
Term	39	35.77
Post Term	3	2.75
Mode of Delivery	Number of Cases	%
Vaginal	86	78.89
LSCS	23	21.11

Table 1. Demographic Characteristics

Sl. No.	Causes	No.	%
1.	Unknown	24	22.01
2.	Hypertensive disorder	30	27.5
3.	Infection	16	14.67
4.	Rupture Uterus	11	10.09
5.	Cord Prolapse	6	5.50
6.	Obstructed Labour	2	1.83
7.	Congenital Anomaly	4	3.66
8.	Abruption	7	6.42
9.	Placenta Previa	2	1.83
10.	Post Maturity	1	0.91
11.	Sickle Cell Disease	3	2.75
12.	Anaemia	2	1.83
13.	Meconium	1	0.91

Table 2. Causes of IUFD

Most of the cases of IUFD were preterm i.e. 67 (61.46%) followed by 39 (35.77%) cases of term gestation. Only 3 cases (2.75%) were post term. Maximum IUFD cases were delivered

vaginally i.e. 86 (78.89%). Only 23 cases (21.11%) were delivered by LSCS.

As table 2 shows, majority of the causes of IUFD were hypertensive disorder i.e. 27.5 % (30/109) followed by unknown cause i.e. 22% (24/109). Infection accounts to 14.67% (16/109). Rupture uterus is also an important cause of IUFD in 10% of cases (11/109). Abruptio was seen in 6.42% cases followed by cord prolapsed in 5.5%. In only 1 case postmaturity, in 2-2 cases placenta previa and obstructed labour was seen. Congenital anomaly was found only in 3.66% cases.

DISCUSSION

In our study there were 109 IUFD cases among total 1450 birth, thus the frequency is 75/1000 birth. However, Worldwide the still birth rate is 18.9/1000 birth in 2009 and in western countries it is 4.7-12.0/1000 birth.^(2,3,4,5) This is much lower than that observed in our study. The study by Jamal S et al shows incidence 56/1000 birth.⁽⁶⁾ In a study done in Uttarakhand, still birth rate was 49/1000 births whereas national average is that of 38/1000 births.⁽⁷⁾ The reason for higher incidence of IUFD can be attributed to many causes like lack of inadequate intranatal care, illiteracy, poor awareness regarding women's health as well as low socioeconomic status. Ours is a tertiary care referral centre so all the complicated obstetrical cases are referred here from the periphery & other centers.

Increased risk of foetal death is present among teenage group and older women. In our study however foetal deaths were more in 21-30 years. This is because most of the women now a days marry after 21 years and in India most of the women complete their family before 35 years. However the study of Jamal S et al and Desai S et al show maximum incidence of IUFD among age group 16-20 years.^(6,8) In our study most of the IUD are seen among the cases belong to rural areas than urban areas (67% vs. 33%). This is mainly because our center is located in the remote tribal areas and because of very poor antenatal care, paucity of monitoring facilities in rural areas, lack of trained health personals and late referrals. Sharma S et al had also observed in their study that 58% cases of IUFD were from rural areas and only 42% were from urban areas.⁽⁹⁾ Parity of the patients influences the pregnancy outcome. In our study proportion of IUFD was higher in multigravida (57%). Korde-NV et al observed 51.6% of multigravida who had still birth.⁽¹⁰⁾ Similarly Raymond E G et al also demonstrated a higher still birth rate in multigravida patients.⁽¹¹⁾ As our study shows maximum number of IUFD cases in preterm (61.46%). Similar results were also reported by the study of Jamal et al, Saha D et al and Chitra K et al.^(6,12,13) In our study maximum number of cases delivered vaginally (78.89%) compared to Saha D et al (85.29%) and Korde NV et al (73.1%) and Chitra K et al (89.4%) respectively.^(12,10,13)

Table 3 of our study shows hypertensive disorder of pregnancy (HDP) to be the cause of maximum number of IUFD (27.5%). In a study done by Patel S 33.7% cases showed HDP whereas in the study of Jamal S et al HDP was seen in 41% of cases and in Saha D et al 20.7% of cases showed HDP.^(14,6,12) In present study unexplained IUFD occurred in 22% of cases compared to 33% reported by Neetu Singh et al.⁽¹⁵⁾ In the

study of Jamal S et al only 12.5% cases had no ascertainable cause while in study by Desai S et al 57.69% of the cases had no definite cause.^(6,8) Another important cause of IUFD was infection which was seen in 14.67% cases comparable to study by Jamal S et al in which infection attributed to 16.71% cases and in the study of Garg S et al it was only 5%.^(6,16)

We observed rupture uterus as a one of the important cause of IUFD in 10.09% cases. Being a tribal area poor awareness, illiteracy, injudicious use of oxytocics and late referrals leads to obstructed labour and ultimately rupture uterus. Similar result was also reported by Garg S et al.⁽¹⁶⁾ In placental factors, abruptio was found in 6.42% of cases and placenta previa in 1.83% cases. Jamal S et al found 30.3% abruptio and 12.5% placenta previa as a cause of IUFD in his study.⁽⁶⁾ Study by Garg S et al showed abruptio placenta in 11.25% of cases.⁽¹⁶⁾ Present study shows cord accidents in 5.5% cases while other studies shows around 2% cord accidents.^(7,12) Congenital anomaly contributed to 3.66% of cases in our study compared to the study of Garg S et al which shows congenital anomaly in 5% cases and of Anjali C et al 10.5% cases.^(16,7) Patel S et al had observed 2.5% cases of congenital malformations.⁽¹⁴⁾

CONCLUSIONS

This study shows higher incidence of IUFD compared to some studies in, our country and many developed countries. Our centre is in a tribal area with illiteracy, poor socioeconomic status, poor health seeking behaviour, late referrals being important factors leading to IUFD. As such all IUFD are not preventable but rate can be brought down by booking of all ANC cases, identification of high risk cases, early referral, and timely intervention. Many of the factors are preventable, can be diagnosed and managed early. Social factors like apathy towards, women's health, decision making, and nutrition, needs to be addressed.

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