

Study on Etiology and Maternal Complications of Intrauterine Fetal Death

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Abstract

Background : Management of pregnancy with good fetal and maternal outcome is a challenge to the obstetrician which can be achieved by screening the risk factors of Intra Uterine Fetal Death (IUFD) and thereby prevent, control and treat them by quality preconceptional and antenatal care.

Materials and methods: This cross-sectional study, done in a tertiary care hospital during a period of two years where 100 pregnant women with history of intrauterine fetal death were included after informed written consent. Intrauterine fetal death was confirmed by Ultrasonogram. Different risk factors and maternal complications were observed. Then data was analyzed with the help of SPSS-20.

Results: Among 100 women, maximum patients were aggregated between age group 26-35 years (45%) and next to which was 16-25 years (35%) primipara was 32% and multipara was 31%. Regarding Antenatal care (ANC) 32% patients attended two antenatal visits and 28 % patients had no antenatal visits and 18% patients completed > 5 visits. Regarding causes of IUFD, 34% due to hypertension in pregnancy, 14% mother was severely anemic, 13% mother had Diabetes Mellitus (DM) abruptio placenta was found in 15% mother, maternal gastroenteritis 05%, maternal fever 09%, cord accident 3% and in 19% cases no causes were identified. Regarding maternal complications, blood transfusion needed in 28% patients, PPH occurred in 12% patients, Sepsis 08%, caesarean section needed in 07 % cases, ARF 4%, DIC in 03% cases and maternal mortality 01%. Mean \pm SD of total hospital stay was 4 ± 1.5 days.

Conclusion: There are different risk factors of IUFD which if identified earlier, then by treating the correctable etiologies, recurrence of IUFD and its related maternal complications can be prevented or reduced.

Key words : IUFD; Maternal complications; Pregnancy.

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INTRODUCTION

Not all pregnancy ended with good fetal and maternal outcome. Intrauterine Fetal Death (IUFD) is the most common negative pregnancy outcome and is a tragic event for a pregnant mother and her family and also distressing for the attending obstetrician.

The Perinatal mortality surveillance Report Confidential Enquiry into Maternal and Child Health (CEMACH) defined Intra Uterine Fetal Death (IUFD) as babies with no signs of life in utero after 24 completed weeks of pregnancy and still birth as baby delivered with no signs of life known to have died after 24 completed weeks of

pregnancy¹. Annual Report of Confidential Enquiry into Still birth and death in Infancy (CESDI) identified suboptimal care as being evident in half of such pregnancies². Ante partum fetal death that is IUFD and Still birth contributes about seventy five percent of perinatal mortality and the share of developing countries is as much as two thirds of the total perinatal mortality occurring in the world³.

So the objective of this study was to identify the common etiologies of Intra Uterine Fetal Death (IUFD) and to find out the maternal complications associated with it, and thereby take preventive measures to reduce correctable etiologies and prevent recurrence of IUFD and associated maternal complications.

MATERIALS AND METHODS

This is a cross-sectional study, done in the Department of Obstetrics and Gynecology in Chattogram Maa-O-Shishu General Hospital, Chattogram, from January 2016 to December 2017. During the study period one hundred pregnant women with history of Intra Uterine Fetal Death (IUFD) were recruited. Both primi and multi gravid women were recruited after consent. Intrauterine fetal death was diagnosed by history and physical examination and confirmed by Ultrasonogram (USG) with the expert in Imaging. Those who did not give the consent were excluded from the study. Data were collected by standard questionnaire from the allocated patients regarding age, parity, antenatal visits, hospital stay, causes of IUFD, maternal complications. All data was checked and edited after collection. Then data was entered into computer and analyzed with the help of SPSS-20 software program.

RESULTS

Table I : Maternal Age

Age group (Years)	Number	Frequency
16–25 Years	35	35%
26–35 Years	45	45%
>35 Years	20	20%

Table I noting maximum patients were aggregated between age group 26-35 years(45%) and next to which was 15-25 years(35%).

Table II : Parity of the mother

Parity	Number	Frequency
PrimiPara 1	32	32%
Multipara (2–5)	31	31%
Grandmultipara (>5)	15	15%

Table II exploring primipara was 32% and multipara was 31%.

Table III : Frequency of antenatal care

ANC care	Number	Frequency
No ANC checkup	28	28%
2 visits	32	32%
3-5 visits	22	22%
>5 visits	18	18%

Table III showing most women completed 2 ANC visits which was 32% and 28 % patients had no antenatal check checkup, they came with pregnancy with no fetal movement and >5 visits was 18%

Table IV : Causes of IUFD

Causes	Number	Frequency
Hypertension in pregnancy	34	34%
APH		
Abruptio placenta	15	15%
Placenta Previa	2	2%
DM or GDM	13	13%
Maternal anemia	14	14%
Maternal Gastroenteritis	05	05%
Maternal fever	09	09%
Known congenital anomaly of fetus	4	4%
Cord accident	3	3%
No causes	19	19%

Regarding causes of IUFD, 34% cases due to hypertension in pregnancy, 14% mother was severely anemic on admission, 13% mother had DM, Abruptio placenta was found in 15% mother, maternal Gastroenteritis was present in 05%, maternal fever in 09% cases, congenital anomaly 04%, cord accident was found 3% and in 19% cases no causes were identified.

Table V : Maternal complications

Complications	Number	Frequency
Blood transfusion	28	28%
PPH	12	12%
Sepsis	8	8%
Caesarean section	07	07%
ARF	04	04%
DIC	03	03%
Maternal death	01	01%

Table V showed Regarding maternal complications, blood transfusion needed in 28% patients, PPH occurred in 12% patients, caesarean section needed in 07% cases sepsis was present in 8% cases, ARF 04% and DIC 03%.

Table VI : Duration from admission to delivery and hospital stay

	Mean ± SD
Duration from admission to delivery(Days)	3 ± 2.1
Total hospital stay	4 ± 1.5

Table VI showed Mean ±SD of total hospital stay was 4 ± 1.5 days.

DISCUSSION

Although the overall perinatal mortality has decreased in past three decades, the number of IUFD is higher as compared to that of early neonatal deaths. Usually intrauterine fetal death is diagnosed in the antenatal period by history (i.e less fetal

movement or no fetal movement) and physical examination (i.e. absent of fetal heart sound) which is confirmed by ultrasound which shown absent fetal heart sound and absent fetal movement by Ultrasonogram.

In this study, maximum patients aggregated age group between 26-35 years (45%) next to which was 15-25 years (35%), exploring para of the mother revealed primipara was 32% and multipara was 31% and most women completed 2 ANC visits which was 32% and No antenatal check up by 28 % cases and >5 visits was 18 %. A study by Al Kadriet al showed women who did not get proper antenatal care there was 70% increase risk of IUFD⁴. These are expected maternal health status in our context. As this study involved only mothers admitting in the tertiary care center these may not represent the actual scenario of Bangladesh.

Regarding etiology of IUFD leading cause is Hypertension in pregnancy in 34% cases comparable to 36.19% according to Kala Katti et al, but Singh N showed 10.81% which is much lower than our study^{5,6}. IUFD due to Hypertension in pregnancy is due to placental insufficiency which can be prevented or reduced by quality preconceptional and antenatal care. In present study Abruptio placenta is the second common cause 15%, another study had showed it 19.87% which is comparable to present study but Jamal S found it as high as 30.03% this condition can be reduced by antenatal care by control of Blood Pressure and supplementation of Folic acid^{5,6}. Present study showed Diabetes Mellitus (DM) as a cause in 13% cases, but Pattanaik showed it 5.5% which is much lower than our observation⁷. IUFD due to DM can be prevented by quality preconceptional and antenatal care by control of Blood glucose by diet, Insulin and 12 weeks prepregnancy supplementation of Folic acid. Present study showed anemia as a cause in 14% cases, Jamal S. found anemia as a cause in 25% cases⁶. This condition is also preventable by identify the type of anemia and correction of anemia by diet, iron, folic acid, because most common type is iron deficiency anemia. Other causes were maternal gastroenteritis 05%, which is a preventable condition by prompt treatment and fluid and electrolyte balance, H/O maternal high

fever 09%, congenital anomaly of fetus 04%, cord accidents 03% and in 19% cases no causes were identified. Anjali C had shown congenital anomaly 10.48% which is higher than present study⁸. Singh n et al showed unexplained cause 33.44% which is more than present study⁹. Regarding maternal complications 28 % mothers needed Blood transfusion, Singh N had shown it 52.70% which is much higher than present study. PPH occurred in 12% cases, another study showed it much lower that is 2.36% and was managed by Blood transfusion, oxytocic agents, condom catheterization. Sepsis 08% which was comparable to another study 10%¹⁰. These patients were managed in ICU and needed expensive investigations and treatment. Present study showed caesarean section was needed in 07% cases which was 05% according to another study¹⁰. The indications of caesarean section were central placenta previa, previous history of caesarean section, shoulder presentation and cervical dystocia. In present study ARF was 04 % comparable to another study 3.7%¹⁰. These patients needed dialysis. present study showed DIC in 03% cases, which is much higher 22.5% in study by S Patel¹⁰. These patients were managed in ICU. Present study had shown maternal mortality was 01% . Another study had shown it 1.2%¹⁰. The cause of death was DIC in patient with abruptio placenta and needed caesarean section.

CONCLUSION

Not all but most of the cases of IUFD can be preventable by improvement of general health and quality preconceptional and antenatal care by prevention, control, treatment and timely intervention of common causes like Hypertension in pregnancy, anemia, Diabetes in pregnancy, abruptio placenta, gastroenteritis and maternal high fever and thereby preventing future recurrence of IUFD and its related maternal complications.

DISCLOSURE

All the authors declared no competing interest.

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