Research Article

Study of Intrauterine fetal death

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Abstract

Objective: To study the epidemiodemiological factors related to intrauterine fetal death and to study the associated maternal and fetal risk factors. **Methods: T**his observational study was carried out at M. N. R. Medical college and Hospital, Sangareddy over a period of 2 years. All pregnant women diagnosed as singleton intrauterine fetal death with gestational age more than 20 weeks were included in the study. Women with Multiple pregnancy and intrapartum fetal deaths were excluded from the study. Data was analysed with respect to age, parity, gestational age, blood group, previous history of intrauterine fetal death and associated risk factors. **Results:** 41 patients were included in the study. 90% of fetal deaths were seen in young women between 20 to 30yrs age. Majority (51.2%) women were primigravida and 56% were diagnosed as having intrauterine fetal death at 26 to 31 weeks of gestation. Preeclampsia, severe oligohydramnios, antepartum haemorrhage and congenital anomalies were the major associated risk factors. Other less common risk factors seen in the study were Rh isoimmunisation, eclampsia and hand prolapse. In 19.51% women no risk factor was identified and the cause remained unexplained. **Conclusion:** majority of risk factors associated with intrauterine fetal death are preventable. Although congenital anomalies remain unavoidable, prenatal diagnostic tests and early detection of anomalies by antenatal screening tests may reduce the prevalence of late fetal death and associated psychological trauma to the parents. Early detection and treatment of high risk women may reduce the risk of unexplained fetal deaths.

Key words: Intrauterine fetal death, preeclampsia, antepartum haemorrhage.

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INTRODUCTION

Intrauterine fetal death is defined as the death of the fetus more than 24 weeks gestation and weighing more than 500gms. ACOG defines it as the demise occurring at or later than 20weeks(1). An Intrauterine and intrapartum fetal death together constitutes a large portion of perinatal mortality. Antepartum fetal death contributes to 2/3rd of perinatal mortality.[2] 70% of world's stillbirth burden is contributed by developing countries in Asia and sub-Saharan Africa.[1] Most common factors for fetal deaths in developing countries are antepartum haemorrhage, pregnancy induced hypertension, fetal congenital anomalies, medical problems like Diabetes Mellitus and cardiac disease. Most of the causes are treatable and fetal outcome can be improved by provision of good health care facilities during antepartum and intrapartum period.[3] Poor socioeconomic status, maternal and paternal illiteracy, short birth intervals and lack of prenatal care attributes to this higher incidence of intrauterine fetal deaths in developing countries.[3] According to the Indian census of 2006, stillbirth rate in India is as 9 per thousand births.[1] This study was carried out to study the epidemiological factors and maternal and fetal risk factors associated with intrauterine fetal death.

MATERIAL AND METHODS

This is a prospective, observational study conducted over a period of two years from May 2012 to May 2014. Women attending the antenatal clinic who were diagnosed as having intrauterine fetal death with gestational age 20weeks or more were included in the study. Multiple pregnancy and intrapartum fetal deaths were excluded from the study. We evaluated these women considering age, parity, gestational age, associated risk factors, blood group, previous history of intrauterine fetal death.

RESULTS

41 women had intrauterine fetal death during the study period. 90% of fetal deaths were seen in women between 20 to 30 years of age. Only two women were below 20years and two were above 30 years of age.

Table 1: Age wise distribution

Age	No. of patients	%
< 20 years	02	4.8%
20-30 years	37	90.24%
31-40 years	02	4.8%
< 40 years	00	0

Table- 2 shows the parity status of the women with intrauterine fetal death. 51.2% women studied were primigravidas and 29.26% were second gravida and only 3 women were 4thgravida.

Table 2: Parity

	No. of patients	%
Primigravida	21	51.21%
G2	12	29.26%
G3	05	12.19%
G4	03	7.31%

Table 3: Gestational age

Gestational age	No. of patients	%
20-25 wks	04	9.75%
26-31 wks	23	56.09%
32-37 wks	09	21.95%
38-40 wks	03	7.3%
< 40 wks	02	4.8%

Table- 3 shows the gestational age of the women at the time of diagnosis. Around 56% patients were between 26 to 31weeks and 21.95% women were between 32 to 37 weeks. 2 out of 41 women were postdated at the time of admission. In 64% women, fetal weight was less than 1.5kg and in 3 cases, birth weight was more than 3kg.

Table 4: Associated risk factors

Risk factor	No. of patients	%
Preeclampsia	10	24.39%
Severe oligohydramnios	08	19.51%
Antepartum haemorrhage	05	12.19%
Congenital anomalies	03	7.31%
Eclampsia	02	4.8%
Rh isoimmunization	02	4.8%
Postdated pregnancy	02	4.8%
Hand prolapse	01	2.4%

Previous history of fetal death was seen in 5 patients and another 3 patients had previous history of recurrent miscarriage. In our study, preeclampsia(24.34%), severe oligohydramnios (19.5%), antepartum haemorrhage (12.19%) and fetal congenital anomalies (7.3%) were the leading risk factors associated with fetal death. Eclampsia and Rh isoimmunisation was found in 2 women each. In 19.51% women, cause of intrauterine death was unexplained.

DISCUSSION

Intrauterine fetal death and still birth is one of the major psychological trauma to the parents and cause for stress to the family. Intrauterine fetal deaths are still occurring inspite of development of newer modalities for diagnosis and treatment of high risk cases. This may be because of lack of utilization of health care facilities by the population and also because of some unexplained causes. In our study we evaluated 41 women with diagnosed singleton intrauterine death. Multiple pregnancy and intrpartumfetal deaths were excluded from the study. In our study, when agewise distribution was considered, majority women were young between 20 and 30 years. Similarly, in the study by Shaaban *et al*, 52% women with intrauterine death belonged to 3rd decade of life, indicating that most of the affected cases are relatively young.[4] However, this defers when we compare with western community where, problem was seen in elderly women.[5] This can be explained by better antenatal services and utilization of health care facilities, early detection and treatment of high risk cases in western countries. In the present study, majority (51.21%) women were primigravidas. This is in contrast to the study by Khaskheli *et al*, who reported 52% cases being grandmultiparas.[3] 88% of women in this study delivered at gestational age less than 37 weeks.similar results were found in study by Khaskheli *et al* where, 72% women delivered at gestation age less than 36weeks.[3] However, in the study by Shaaban *et al*, most of the foetuses were lost at 37weeks or beyond.[4] Major risk factors associated with intrauterine fetal death in our study were preeclampsia (24.39%), severe oligohydramnios (19.5%), antepartum haemorrhage (12.19%) and fetal congenital anomalies (7.3%). Eclampsia and Rh isoimmunisation was found in 2 women each. 8 out of 41women had no risk factors and the cause for intrauterine death was unexplained. According to Al Kadri *et al*, risk of intrauterine fetal death is 25 fold higher in women with placental abruption, tenfold higher in IUGR cases and 3 fold higher in PIH.[6] In the study by Nayak *et al*, maternal hypertensive disorder was found to be significantly associated with intrauterine death in 28.56% of the women.[7] Similar results were seen in the study done by Korejo *et al*, where hypertensive disorders contributed to 24% of fetal deaths.[8] Khaskheli *et al* reported antepartum haemorrhage (30%) as a major cause of fetal loss and preeclampsia being the less common associated risk factor.[3] Chromosomal abnormalities and congenital anomalies are unavoidable causes of intrauterine fetal death. Riskof congenital anomalies is more in women with history of consanguineous marriages, repeated pregnancy at short intervals, uncontrolled Diabetes, malnutrition and use of drugs during pregnancy.[3] In our

study, 7.3% of foetuses had congenital anomalies. This is in accordance to other studies. Nayak *et al* reported 9% fetuses with congenital anomalies[7], while Anjali *et al* reported the incidence of congenital anomalies as 11.5%[1] In our study, 5 women had previous history of one or more intrauterine fetal death. Shaaban *et al* also reported similar history in 8.3% women.[4] This may indicate some subclinical genetic or chromosomal problems which can recur in future pregnancy. Stillbirths resulting from Rh isoimmunisation have largely been reduced after introduction of Rh immune prophylaxis and availability of facilities for intrauterine transfusions. In many cases, cause remain unexplained inspite of advanced research and newer treatment modalities are being available.[1] In our study 19.5% women had unexplained intrauterinefetal deaths. Similarly, Anjali *et al* reported 19.5% of cases with unexplained fetaldemise.[1] In developing countries like India, sociodemographic factors also contribute to the increased risk of intrauterine fetal demise. Early marriages, teenage pregnancies, short interconceptional period, low socioeconomic status, poor nutrition and less tendency to utilize the available health care facilities predispose to increased risk of IUFD in the country.[6]

CONCLUSION

Intrauterine fetal death is a tragic event for the parents. In most of the cases, the associated risk factors are preventable by early detection and treatment of underlying conditions. Hypertensive disorders, antepartum haemorrhage postdated pregnancy, Rh isoimmunisation are preventable causes of fetal death where fetal death can be prevented by more vigilant antenatal care and treatment. Although congenital anomalies are unavoidable, prenatal diagnostic tests and first trimester screening by triple marker test can detect anomalies at early gestation when, termination of pregnancy causes lesser psychological trauma to the family than late fetal deaths. Inspite of advances in the diagnostic and therapeutic modalities, in number of cases of fetal deaths remain unexplained.in such cases, autopsy of the fetus and parental karyotyping may help for planning future pregnancy.

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