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Original Research Article

Incidence and risk factors of intra uterine fetal death: a retrospective study at a tertiary care centre in Kashmir, India

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ABSTRACT

Background: Intrauterine fetal death (IUID) is the tragic event contributing to high perinatal mortality in developing countries. So many risk factors have been seen associated with IUID that can be prevented with better antenatal care and timely detection at the earliest so that the prevalence can be decreased. This study was done to identify the risk factors associated with IUID.

Methods: This is a retrospective study from done from March 2017 to March 2018 at skims maternity hospital. IUID was defined as fetal death beyond 20 weeks of gestation. Records were analyzed and data was compiled.

Results: In our study there were total of 2500 deliveries out of which 70 were IUID. Incidence was 28 per 1000 live births. It was found more common in the age group of 20-29 year (65.71% %). Preeclampsia was the risk factor in 17.14% of cases, followed by abruption in 11.42% followed by placenta previa in 7.14% of cases. However, 20% of the cases had unidentified risk factor.

Conclusions: Present study was an effort to compile common risk factors associated with IUID at tertiary centre of Kashmir.

Keywords: Abruption, Intra uterine fetal death, Pre-eclampsia, Risk factors

INTRODUCTION

Intrauterine fetal death (IUID) is defined as fetal death after 20 weeks of gestation. It can be further classified into early and late. Early IUID means fetal death before 24 weeks of gestation and late IUID means after 24 weeks of gestation.¹ Antepartum fetal death contributes to about two third of prenatal mortality.² It is a major tragedy to both parents and obstetrician, emotional pain and distress caused by this event increases in direct relation to the duration of pregnancy. IUID is having high prevalence despite so much advance in medical science especially in developing countries. Its prevalence directly reflects quality of antenatal care in the country.² IUID has multi-factorial etiology, common factors for

fetal death in developing countries are ante partum haemorrhage, pregnancy induced hypertension, congenital anomaly, medical problems like diabetes mellitus, cardiac diseases, kidney disease and unexplained factors. IUID results due to fetal distress arising because of any of the above causes and or due to obstructed labour and reflects poor quality of clinical care. This study was carried out to study the epidemiological factors maternal and fetal associated with IUID.

METHODS

This retrospective study was conducted in the Department of Obstetrics and Gynecology, SKIMS,

Srinagar from January 2017 to February 2018. All pregnancies with diagnosed IUFD admitted in the department were studied.

Inclusion criteria

- All those cases who were diagnosed as IUFD at the time of admission with gestational age >24 weeks.

Exclusion criteria

- All cases of intrapartum fetal death and cases with <24 weeks were excluded.

Records were thoroughly analysed with respect to age, parity, gestation, socioeconomic status, antenatal care, associated complicating factors like hypertensive disorders of pregnancy, diabetes mellitus, rhesus isoimmunisation, severe anemia, fetal characteristics with respect to sex, birth weight, gross congenital anomaly, risk factors related to placenta cord and laboratory investigations were studied.

Statistical analysis

Statistical analysis was performed using SPSS 16.0 software. Unpaired t-test was used to analyze continuous data. Categorical data was compared using Chi-square test. P <0.05 was taken as statistically significant. Relative risk was calculated for abnormal UA PI, UA RI, UA S/D, MCA PI and cerebral-umbilical PI ratio. Multivariate regression was used to analyze effect of multiple variables.

RESULTS

Present study included patients of age ranging below 20 years (2.85 %) to more than 40 years (1.42%) while most of our patients were in age group of 20-29 years (65.71%), Table 1.

Table 1: Age wise distribution.

Age	No. of patients	%
<20	2	2.85
20-29	46	65.71
30-39	21	30
>40	1	1.42

Parity of our patients is described in Table 2. Most of our patients were primigravida (55.71%) while G3 and G4 were 14.28% and 10.0% respectively.

Table 2: Parity.

	No. of patients	%
Primigravida	39	55.71
G2	14	20.00
G3	10	14.28
G4	7	10.00

Table 3 gives the description of fetal variables and parameters. Male sex (60%) was more frequent than female (40%). 20% of the babies were 500-1000 grams while 2.85 % were above 3000grams, most of the babies weighed between 2000 to 2500 grams. Regarding gestational age it was seen more frequent at the gestation of 31-35 weeks (57.14%).

Table 3: Fetal variables and parameters.

Sex	Total no. of cases	%
Male	42	60
Female	28	40
Birth weight (grams)		
500-1000	14	20
1001-1500	6	8.57
1501-2000	16	22.85
2001-2500	22	31.42
2501-3000	10	14.28
3001 and above	2	2.85
Gestational age (weeks)		
24-30	18	25.71
31-35	40	57.14
36-40	7	10
+40	5	7.14

In present study there were total of 2500 deliveries out of which 70 were IUFD. Incidence was 28 per 1000 live births. Preeclampsia was the risk factor in 17.14% of cases, followed by abruption in 11.42% followed by placenta previa in 7.14% of cases. However, 20% of the cases had unidentified risk factor (Table 4).

Table 4: Risk factors.

Risk Factors	Number	%
Pre-eclampsia	12	17.14
Abruption	8	11.42
Placenta previa	5	7.14
Severe oligohydraminos	4	5.71
Eclampsia	2	2.85
Severe anemia	3	4.28
Congenital anomaly	4	5.71
Post maturity	3	4.28
Hand prolapsed	2	2.85
Rhesus incompatibility	2	2.85
Gestational diabetes	5	7.14
Unidentified	20	28.5

DISCUSSION

Incidence of IUFD in india reported from various centres ranges between 24.4-41.9 %.^{3,4} This is in accordance with present study where it was found to be 28%. In present study maximum number of cases of IUFD occurred in primigravida (55.71%) followed by gravida second 20% followed by gravida third 14.28% comparable results were found by study carried out by Neetu Singh et al in which the incidence of IUFD was maximum in

primigravida 25% but it was 17, 18, and 24% in gravid second, third and fourth respectively. Contrast results were found by Khasakhali et al who reported maximum number of cases of IUFD in multigravidas 52%.^{5,6} In present study IUFD was more common in the age group of 20-29 years 65.71%. Our results were similar to the study conducted by Sangeeta Chippa et al, in which 90% of the cases of IUFD were in the age group of 20-30 years.⁷ Study conducted by Anupama Dave et al had comparable results in which maximum cases 51% were found in 21-25 years of age. Neetu Singh et al study showed maximum number of cases in 21-25 years of age 45% followed by 26-30 years 36.19%.^{5,8} In present study sex of the baby with IUFD was male more frequently than females (60% and 40%). comparable results were seen in study conducted by Anupama Dave et al where male female percentage was 61 and 39%. Neetu Singh et al had similar results with 54 and 46% male female percentage ratio.⁵ In present study range of birth weight was maximum in 2-2.5 kg group. Results were contrast to the study conducted by Anupama Dave et al where maximum number of cases was in the range of 500 -1000 grams (23%).⁸ In present study IUFD was seen commonly at the gestation age of 31-35weeks. our results were in accordance with study done by Bakhshi L et al were most of the cases of IUFD were at the gestation age of 30-35 weeks.¹⁰ Contrast results were found in study done by Jayashree V Kanavi et al were it was seen to be maximum at the gestation age of <28 weeks.⁹ Among risk factors, preeclampsia was seen in 17.14% cases followed by abruption 11.42%. Unidentified factors were seen in 28.5% of cases. Similar results were seen in study done by Sangeeta Chippa et al where Preeclampsia was seen in 24.39% of cases and 19.51% cases had unexplained cause.⁷ Khashkheli et al had found antepartum haemorrhage as the main cause of IUFD (30%) and preeclampsia being less common.⁶ Korejo et al had found that hypertensive disorders contributed to about 24% IUFD cases.¹¹ Anupama Dave et al found abruption as a major risk factor 14% followed by preeclampsia in 12.5% and unidentified cause in 12.5% of cases.⁸ Study done by Choudary et al had similar findings where hypertensive disorder as a risk factor was seen in 28.7% cases, unidentified factor in 19.05% cases, severe anaemia in 15.24% and placenta previa in 3.8% cases.¹² Bakshi et al found hypertensive disorder in 28.7% of cases, 17.2% had ante partum hemorrhage out of which 11.7% had abruption and 4.1% had placenta previa.¹⁰ In about 19.5% cases no cause was seen. Onset of labour was spontaneous in 20 (28.50%) of patients, 42 (60%) needed induction of labour while 8 (11.4%) cases needed LSCS indications being transverse lie, prev 2 LSCS, obstructed labour and placenta previa.

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