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ORIGINAL ARTICLE

A STUDY ON FETAL OUTCOME WITH RESPECT TO SURVIVAL IN MOTHERS WITH ABRUPTIO PLACENTA IN A LARGE REFERRAL HOSPITAL

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ABSTRACT: Abruption placenta is a serious condition affecting survival of pregnant mother and baby. This study on fetal outcome with respect to survival in mothers with abruptio placentae in a large referral hospital is a observational study. Study involved about 100 cases out of 19000 deliveries, which were managed according to standard protocols in a resource limited large referral hospital. The incidence of APH was 0.89% in the present study, the incidence of abruption was highest in parity 2 to 5 as majority of deliveries were in the same age group. Based on the grading of abruption 49% were grade 2. Acceleration of labour was done using different methods. Syntocin was used in 21 cases. LSCS was done in 16 cases, 6 among them for maternal indications and 10 cases LSCS was done immediately without trial of labour with a live foetus of more than 34 weeks gestation. Fetal fate based on the grading of abruption, with grade 0, two cases delivered vaginally and both survived. In grade 2 abruptio placenta, 17 fetuses were live at admission among which 15 delivered vaginally and 2 delivered by LSCS. Out of the 17 aforesaid cases 14 died intrapartum and 2 died due to perinatal asphyxia. With grade 3 abruption none of the fetuses survived. Foetal deaths were probably due to foetal bradycardia and asphyxia and early timely intervention like blood transfusion and LSCS could have saved the foetus.

KEYWORDS: Abruption placenta, Perinatal mortality, Maternal outcomes, Fetal death, fetal bradycardia.

INTRODUCTION: Abruption placenta means complete or partial detachment of usually attached placenta from uterine wall at 20 or more weeks of gestation (FIGO 1976). Incidence of placental abruption ranges from 0.5-3.5% of all pregnancies.[1] In a study done in South India incidence was found to be 1.1%. Delay in diagnosis and management leads to extensive separation of placenta and fetal demise. Perinatal mortality rate has been found to be 119 per 100 live births in mothers with placental abruption which is much higher than the perinatal mortality due to other causes, also due to increased incidence of Intra Uterine Growth Retardation and preterm deliveries.[2] 10-12% of third trimester still births have been associated with placental abruption.[3] 8.9 fold increase in the still birth found in abruption placenta in a study conducted in USA.[4] Abruption placenta leads to IUGR, preterm delivery, still birth and also severe neurological disability within first year of life. Because of relationship between socioeconomic status, nutrional status of mother and abruption. This study aims to understand the incidence and predictors of adverse outcomes of abruptio placenta in our setting and Knowledge from this study will help in determining the outcomes and designing management strategies improving Fetal maternal outcomes and care for abruptio placenta patient.

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AIMS AND OBJECTIVES:

1. To study the effect of abruption on perinatal outcome.
2. To study the frequency of abruptio placenta.

DEFINITIONS:

Perinatal Death: Infant death that occurs in utero from 28 weeks up to 7 days post-delivery.

Maternal Death: Death during pregnancy irrespective gestation age up to 7 days post-delivery.

Peripartum Hysterectomy: Is a surgical removal of the uterus performed at the time of delivery or within 24 hours after delivery.

Birth Asphyxia: Failure to start regular respiration at one minute of birth characterized by Apgar score <7 at 5 minutes post-delivery, hypercapnia and need for the resuscitation.

Shock: Reduction in systolic BP <90mmhg characterized by pallor, rapid breathing, sweating, and tachycardia.

Stillbirth: Fetus above 28 wks, weighing ≥1kg showing no sign of life after birth.

Disseminated Intravascular Coagulation (DIC): Is systemic activation of blood coagulation leading to consumption exhaustion of coagulation proteins and platelets (≤100,000cells/ul) or by clinical decision by specialist/Resident.

Acute Renal Failure: Persisted oliguria (urine ≤500ml/24hours) and presence of elevated serum creatinine ≥140 mmol/l.

Preterm Baby: Babies born alive before 37 weeks of pregnancy are completed.

MATERIALS AND METHODS: It was an observational study. The study group included mothers admitted to obstetrics and gynecology department with abruptio placenta and period of gestation more than 28 weeks. Our study included 100 cases of abruptio placenta during the study period.

Inclusion Criteria: All pregnant women with complaints of bleeding P/V after 28 weeks of gestation and diagnosed as abruption during the course to delivery.

Exclusion Criteria:

1. All pregnant women with complaints of bleeding P/V after 28 weeks of gestation and diagnosed as
2. Palcenta Previa.
3. Genital tract trauma.

A detailed history of the mothers was taken like name, age, sex, occupation, education, socioeconomic status, duration of amenorrhea, last menstrual period, duration of loss of foetal movements, history of trauma, history of pregnancy induced hypertension(PIH), history of previous medical disorders and pregnancy loss. A detailed history of perinatal outcome was

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taken. The details of gestational age assessment by new Ballard score, sex, weight, complications like disseminated intravascular coagulation, seizures, renal failure, respiratory distress syndrome was taken. Grading of abruptio placenta done. Management of mothers was done as per the principles of obstetric management of abruption placenta. Resuscitation of mother if shock with fluids and ionotropes, DIC managed with blood components, renal failure with supportive measures. Fetal heart sound (FHS) was monitored, ARM was done and labour was accelerated with 2.5 units of oxytocin. Second stage of labour was cut short prophylactic methergin was given. Emergency LSCS was done if labour was not established within 6-8 hours of induction, worsening general condition despite blood transfusion and if foetus is alive, mature and is in distress. Newborn babies were managed accordingly and shifted to neonatal intensive care unit (NICU) for further management.

OBSERVATIONS AND RESULTS: One hundred patients had abruption out of 19000 deliveries in the study period. Maternal age was between 15 to 40 years, majority 48% were in the age group of 21-25 years. 47%patients were in the group with >gravida 4. The most common presenting complaints were vaginal bleeding and abdominal pain

Total No. of deliveries	**19000**
Antepartum haemorrhage (APH)	170
Placenta previa	40
Abruption placenta	100
Unclassified	30

Table 1: Incidence of abruption placenta

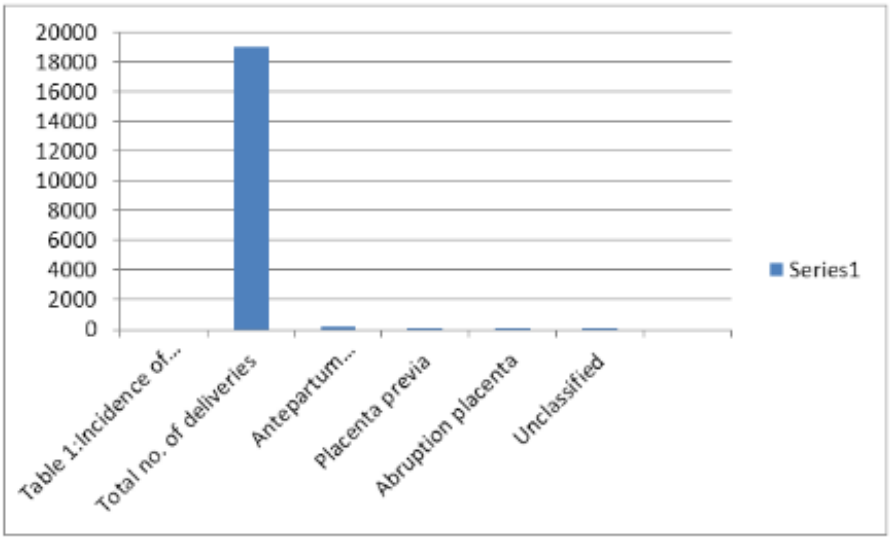

Table 1

Incidence of APH was 170 cases i.e., 0.89%, Abruptio placenta was 0.52%, Placenta Previa was 0.21% and unclassified was 0.15%.

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Age group (years)	Incidence
15-20	28
21-25	48
26-30	16
31-35	5
36-40	3

Table 2: Age distribution of mothers

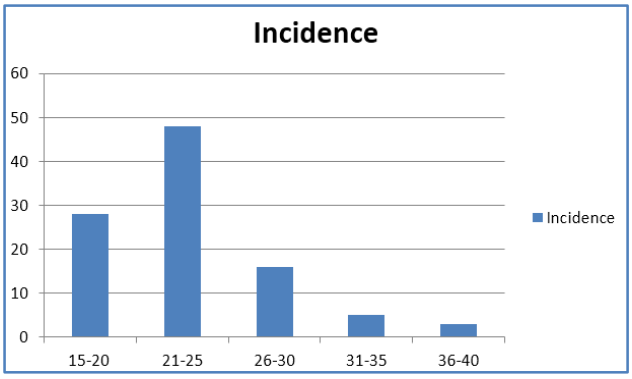

Table 2

Majority of cases of abruption placenta were found in the age group of 21-25 years 48%, followed by below 20 years age group 28%.

Low	88
Middle	10
High	2

Table 3: Socio economic status

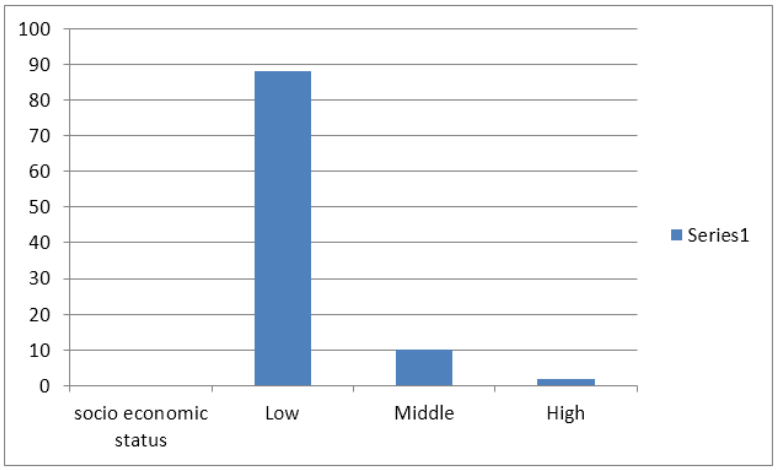

Table 3

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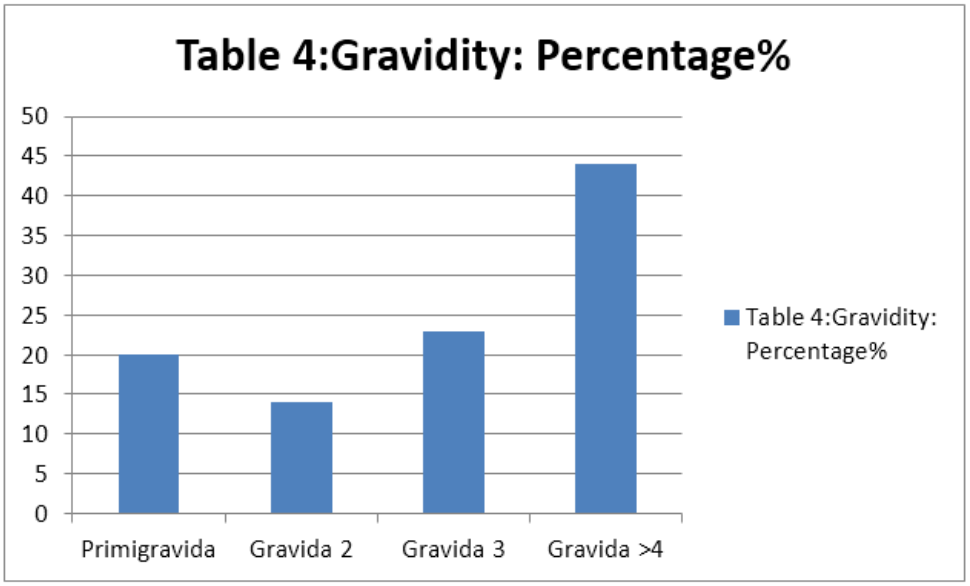
About 88% of mothers belonged to low socio economic status. This is due to the factor that hospital serves for patients from low strata of society.

Gravida	Percentage %
Primigravida	20
Gravida 2	14
Gravida 3	23
Gravida >4	44

Table 4: Gravidity



Gestational age weeks	No. of cases / %
24	1
26	1
28	11
30	7
32	20
34	24
36	20
Term	16

Table 5: Gestational age

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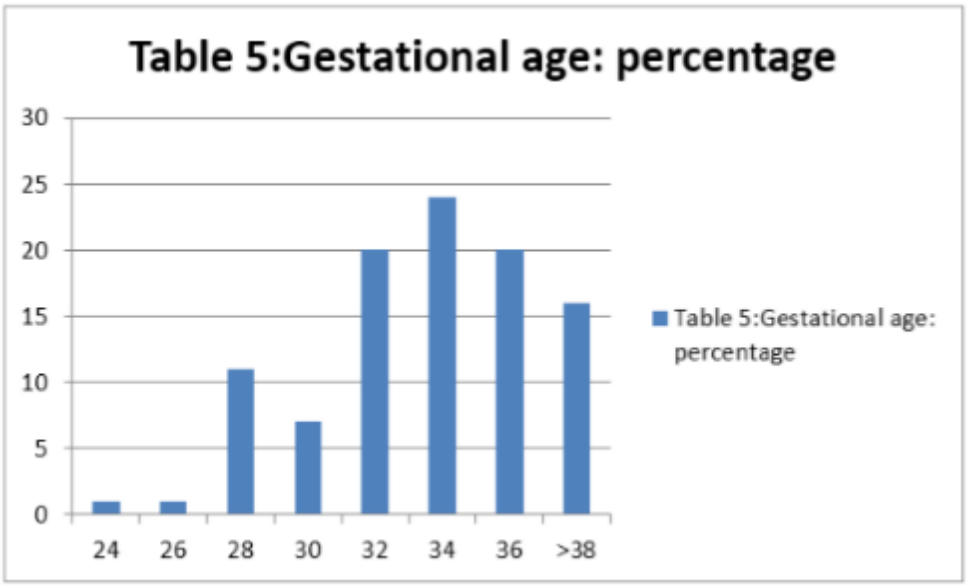
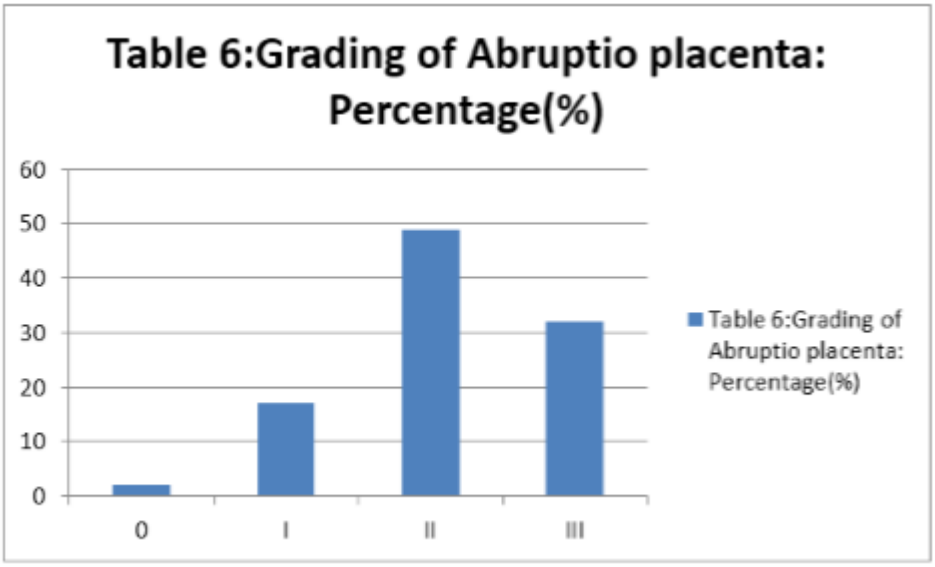


Maximum incidence occurred at the range of 32-36 weeks and was about 64%.

Grades	Percentage (%)
0	2
I	17
II	49
III	32

Table 6: Grading of Abruptio placenta



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2% cases had grade '0' Abruptio placenta. All babies were live born. Grade I abruption was found in 49%. Grade 2 in 49% foetal distress was present and perinatal mortality was 100%.

Fresh still born	71
Live	19
Macerated	7
Live +Birth asphyxia	3

Table 7: Condition of baby at birth

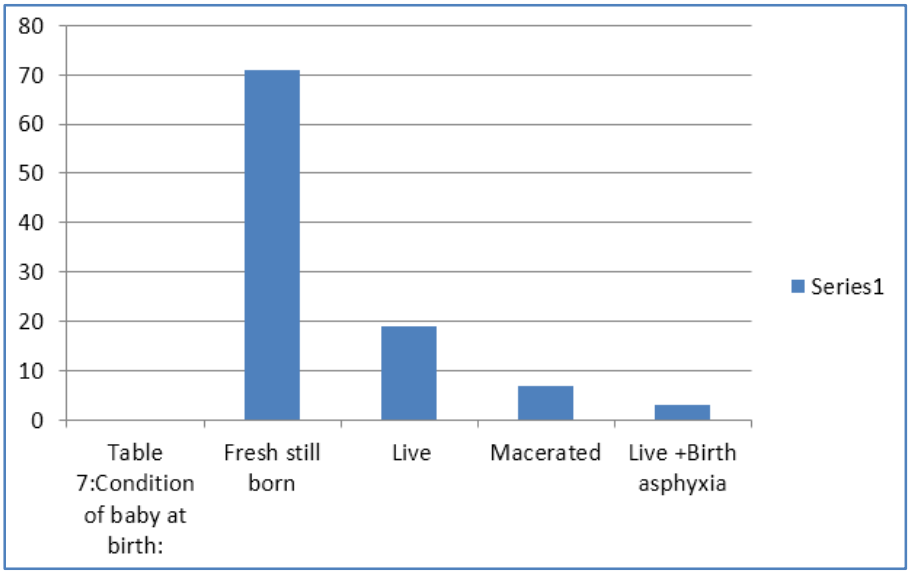

Table 7

Majority of cases were fresh still born indicating the severity of abruption.

Weight	Number
1-2 kgs	54
2-3 kgs	40
3-4 kgs	6

Table 8: Weight of the baby

DISCUSSION: The incidence of APH was 0.89% in the present study. Age distribution of mothers was highest in the present study in 21-25 years age group i.e., 36%, Mondal G.S[5] in their study had highest incidence in the same age group. The incidence of abruption was highest in parity 2 to 5 as majority of deliveries were in the same age group, comparable with the other studies conducted by L. Ashar[6] et al and Mahendra Parikh[7] et al. Maximum incidence was found in the range of 33-36 weeks gestation, the same sub group had the highest incidence in study done by Krishna Menon[8] et al. Associated conditions like malpresentation was present in 13 cases among which face presentation in 1 case, breech in 9 cases and shoulder presentation in 2 cases.

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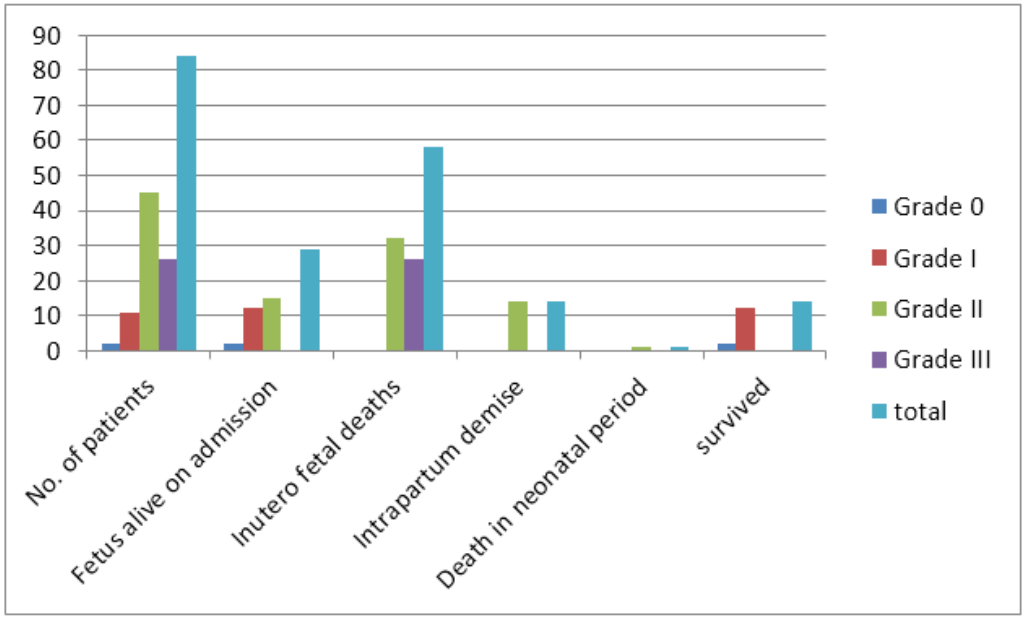
Twinning was present in 5 cases. Cord prolapse occurred in one patient and anomalous foetus with hydrocephalus occurred in one case. Based on the grading of abruption 49% were grade 2, whereas Haynes.D[9] et al had highest abruption in grade 1. Acceleration of labour was done using different methods. Syntocin was used in 21 cases. LSCS was done in 16 cases, 6 among them for maternal indications and 10 cases LSCS was done immediately without trial of labour with a live foetus of more than 34 weeks gestation.

Birth weight grams	No. of patients	Fetus alive on admission	Inutero fetal deaths	Intrapartum demise	Death in neonatal period	Survived
Vaginal delivery						
Grade 0	2	2				2
Grade I	11	12				12
Grade II	45	15	32	14	1	0
Grade III	26	-	26			
Total	**84**	**29**	**58**	**14**	**1**	**14**
Caesarean section						
1000-1499		-	1	-	-	-
1500-2499		7	4	-		7
2500		3	3	-	1	2
Total		**10**	**8**	**-**	**1**	**9**



Vaginal Delivery

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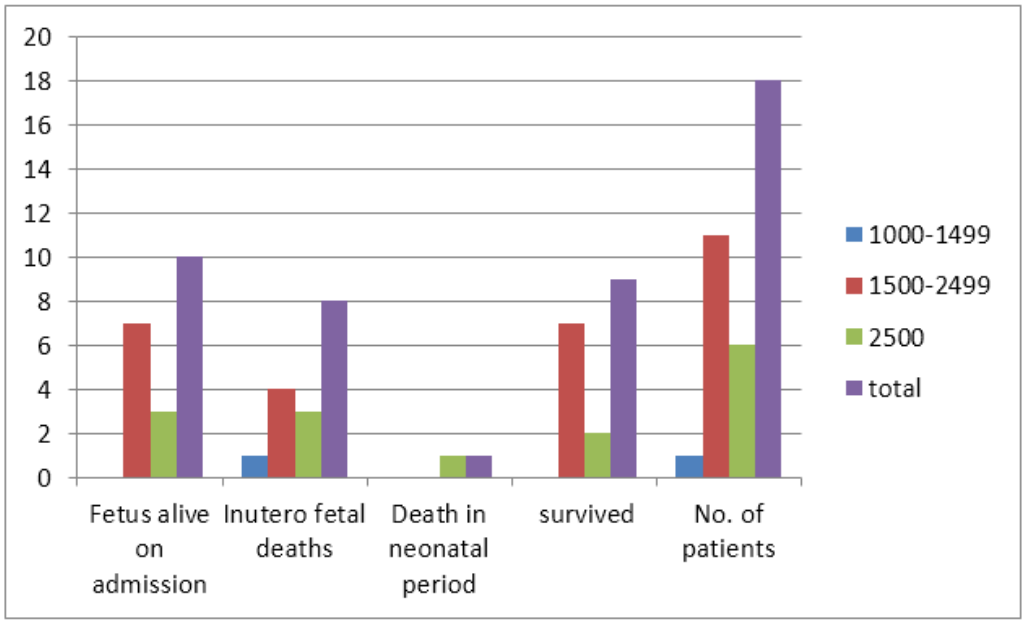

Caesarean Section

Fetal fate based on the grading of abruption, with grade 0, two cases delivered vaginally and both survived. In grade 2 abruptio placenta, 17 fetuses were live at admission among which 15 delivered vaginally and 2 delivered by LSCS. Out of the 17 aforesaid cases 14 died intrapartum and 2 died due to perinatal asphyxia. With grade 3 abruption none of the fetuses survived. Foetal deaths were probably due to foetal bradycardia and asphyxia and early timely intervention like blood transfusion and LSCS could have saved the foetus.

Birth weight grams	Foetus alive on admission	Inutero foetal deaths	Intrapartum demise	Death in neonatal period	Survived
Vaginal delivery					
1000-1499	8(1 twin)	17(1 t)	8(1 t)	-	0
1500-2499	16(1 t)	30	5	-	11
2500	5	11	1	1	3
Total	**29**	**58**	**14**	**1**	**14**
Caesarean section					
1000-1499	-	1	-	-	-
1500-2499	7(2 t)	4	-		7
2500	3	3	-	1	2
Total	**10**	**8**	**-**	**1**	**9**

't' represents twin pregnancy.

Among fetuses weighing 1000-1400 grams, 18 babies died in utero and 8 were alive on admission. In 8 cases of vaginal delivery none survived. In babies weighing between 1500-2400 gm, 23 were live during admission among them 18 were live births, 5 babies succumbed in utero. In fetuses weighing more than 2500 gm 8 were alive on admission and 14 were IUD. When LSCS was done in relation to baby weight in the range 1500-2499 gm all the babies survived indicating LSCS has better fetal salvage rates. Perinatal mortality rate in our study was 78.09%, comparable to other studies done in this regard.

CONCLUSION: In this study there was a significantly high incidence of ante partum hemorrhage associated with perinatal mortality. The reasons were probably low socio economic status, lack of awareness of health and education. Accidental hemorrhage is an emergency condition but care must be taken to decrease the severity. Perinatal mortality could be avoided by improving socio economic status, proper antenatal care, strict surveillance, early recognition and prompt and timely management with more emphasis on early referral to higher centre. More emphasis should be laid on providing better neonatal care facilities for survival of neonates.

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