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FETO–MATERNAL OUTCOME IN CASES OF ACCIDENTAL HAEMORRHAGE

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Abstract

Background: Accidental haemorrhage is a grave obstetrical emergency that refers to bleeding at the decidual-placental interface which causes placental detachment over 28 weeks of gestation age and prior to delivery of the fetus. WHO reported 2.1% maternal mortality rates due to Abruptio placenta, and the fetal perinatal mortality rate was 15% while its incidence was 0.65%. Abruption may be “revealed,” in which case blood tracks between the membranes and the decidua, and escapes through the cervix into the vagina. The less common “concealed” abruption occurs when blood accumulates behind the placenta, with no obvious external bleeding.

Aim: The study aimed to understand the incidence and predictors of adverse outcomes of Accidental hemorrhage in our setting and Knowledge from this study will help in determining the outcomes and designing management strategies improving Fetal maternal outcomes.

Methods: It was an observational prospective hospital-based study design with a follow-up component. All pregnant women diagnosed to have abruption placenta from 28 weeks of gestation and above; all babies delivered by mothers with abruptio placenta.

Result: The majority of cases 86(86%) belonged to the reproductive age group of 21-30 years. 60(60%) cases were multipara within 2-4 range of parity and 5 (5%) patients were grand multiparous. Thus the present study would tend to support multiparity as a risk factor. In the present study, higher frequency of unbooked cases 62 (62%) was seen as they were referrals, most of them had no antenatal checkups and only presented in hospital as obstetric emergencies. Majority of the cases came with complaint of bleeding per vaginum, as blood escapes out the cervix after travelling between membranes. 78% of the neonates were born alive. 70% of the patients had an APGAR score ranging from 5-10. The neonatal weights ranged from 1.0 -4.0 kg, the distribution pattern shows 48 (48%) neonates in the range 1500-2499 gms, 14 (14%) neonates in the range 1000-1499 gms and 38 (38%) neonates in the range 2500-3999 gms.

Conclusion: In light of the current study, it was found that the incidence of Accidental haemorrhage was 0.4%. The study also identified that 60% of the cases were multigravida having parity from 2-4. Furthermore, the study found that 22% of cases were stillbirth; there was 8 neonatal death contributing to increased perinatal mortality of 30%.

Introduction

Accidental haemorrhage is a grave obstetrical emergency that refers to bleeding at the decidual-placental interface which causes placental detachment over 28 weeks of gestation age and prior to delivery of the fetus[i]. It has been variously called placental abruption, abruptio placentae (AP), and in Great Britain, accidental hemorrhage. The Latin term abruption placentae means "rending asunder of the placenta" and denotes a sudden accident, which is a clinical characteristic of most cases. The cumbersome term premature separation of the normally implanted placenta is most descriptive[ii].

Abruption may be “revealed,” in which case blood tracks between the membranes and the decidua, and escapes through the cervix into the vagina. The less common “concealed” abruption occurs when blood accumulates behind the placenta, with no obvious external bleeding. Finally, abruption may be total, involving the entire placenta, in which case it typically leads to fetal death, or partial, with only a portion of the placenta detached from the uterine wall. Trauma definitely seems to be a predisposing factor but in a minority of cases. An important obstetrical factor is ante-natal versions, and this is why these should not be performed under general anaesthesia[iii].

WHO reported 2.1% maternal mortality rates due to Abruptio placenta, and the fetal perinatal mortality rate was 15% while its incidence was 0.65%[iv]. The maternal mortality rate in India is 301 per 10,000 live births. Causes are 38%- haemorrhage, 33%- condition, 8% abortion, 5%- obstructed labor, 5%- hypertensive disorder, 11%- sepsis[v].

Because the abruptio placenta is attached to the umbilical cord and the umbilical cord is an extension of the fetal circulatory system, the fetus is also at the risk of hemorrhage. In case of severe placental abruptio, 50-80% of mortality of the fetus is seen.

At the present time, the most important aetiological factor is thought to be pre-eclampictoxaemia, but it is not the entire answer as is seen by looking at the small number of cases with P.E.T. Hypertension must also be mentioned as being an important aetiological factor (5- 10%)[vi]. It is thought that hydramnios and twin pregnancies may precipitate premature placental separation. Authors holding these views are divided into two schools of thought, one believing that the mechanism is the sudden release of an abnormally high intra-uterine pressure when the membranes rupture, and the other group considering the cause to be the pressure of a bulky uterus on the inferior vena cava, interfering with the venous return from the placenta. Accidental haemorrhage is seen more often in the multiparous than the primigravida patient, and in a series from the records, the unbooked cases showed a higher proportion. Age of the patient is of little significance.

Placental abruption is risky for both mother and fetus, the fetus is deprived of oxygen and nutrition, leading to both short term and long-term consequences among survivors and the mother because of blood loss, loss of clotting ability, and oxygen deprivation to her organs (especially kidney and heart)[1].

The management of abruption should be individualized depending on the severity of the abruption and the gestational age at which it occurs. In cases where fetal demise has occurred, vaginal delivery is preferable. However, in the presence of fetal or maternal compromise, prompt delivery by cesarean is often indicated. Similarly, abruption at extremely preterm gestations may be managed conservatively in selected stable cases, with close monitoring and rapid delivery should deterioration occur. Most cases of placental abruption cannot be predicted or prevented.

Diagnosis relies on the patient's symptoms and physical examination by the health care provider. The first line of treatment involves replacing the mother's blood with blood transfusion and fluids. Oxygen administration is also done. Classical clinical findings include vaginal bleeding, uterine tenderness, irritability, idiopathic premature labour and fetal distress or death. Only one or several of these findings may be present although diagnosis may sometimes be difficult as signs and symptoms vary, maternal and fetal survival is dependent on early diagnosis and intervention.

Aim

1. To determine the prevalence, risk factors and clinical profile of accidental hemorrhage
2. To determine the feto-maternal outcomes in accidental hemorrhage
3. To determine the predictors of maternal and perinatal morbidity and mortality with accidental haemorrhage

Materials and methods

It was an observational prospective hospital-based study design with a follow-up component. It was conducted over a period , from _____ to ____. The study was carried in the department of Obstetrics and Gynecology at a tertiary care centre, teaching centre consisting of pregnant mothers diagnosed with accidental hemorrhage at the tertiary care centre.

Inclusion Criteria

All pregnant women diagnosed to have abruption placenta from 28 weeks of gestation and above; all babies delivered by mothers with abruptio placenta.

Exclusion Criteria

All Pregnant women with vaginal bleeding due to other causes of APH; and referred patients who delivered outside the hospital were excluded.

Study Instrument

Data was collected using a structured proforma, all the necessary information regarding demographic data, clinical findings, laboratory results and outcomes of each patient were collected during admission and during the course of management.

Result and Discussion

During this study period, total 21600 deliveries were conducted out of which 100 cases were diagnosed as accidental haemorrhage giving an incidence of 0.4%. This is comparable to the study of Arora et al. (2001),[vii] where the incidence of abruptio placenta ranges between 2-6%. The variation seen in incidence can be explained by the demographic variation and prevalence of illiteracy, socioeconomic status and associated pathologies.

Table 1: Age Distribution

Age	Present Study		Pariente et al. **(2011)**[viii]	SeemaBibi et al. **(2009)**[ix]
	No. of cases	**Percentage**		
Less than 20 years	05	05%	-	-
21 – 25 years	52	52%	67.7%	63%
26 – 30 years	34	34%	-	-
31 – 35 years	08	08%	-	-
36 – 40 years	01	01%	-	-

The majority of cases 86(86%) belonged to the reproductive age group of 21-30 years. Pariente et al. (2011) and Seemabibi et al. (2009) reported a similar incidence of 67.7% and 63% in these age groups. Only 5 (5%) were below 20 years, and 8 were above 31 years. The study by Kramer et al., (1997)[x] have shown a positive association of abruption with advancing age, but in our study, most of the cases belonged to the younger age group.

Table 2: Parity

Parity	Present Study		Sarwar et al. (2006)[xi]	Singhal et al. (2008)[xii]	Talpur et al. (2011)[xiii]
	No. of cases	Percentage			
Primigravida	5	35%	-	6%	20%
2 – 4	0	60%	49%	4%	28%
5 – 7	3	03%	-		52%
8 and above	2	02%	-		-

60(60%) cases were multipara within 2-4 range of parity and 5 (5%) patients were grand multiparous. Thus the present study would tend to support multiparity as a risk factor for accidental haemorrhage which gave similar results in comparison to studies by Sarwar et al., (2006)[11] and Singhal et al., (2008)[12] which accounted to 49% & 64%. The study conducted by Talpur et al. (2011)[13] showed grand multiparity as a predisposing factor for abruptio placentae. Early marriages, lack of correct information and limited access to modern contraceptive methods, predisposes women to give too early, too many and too frequent births. Barriers like poverty, illiteracy and lack of empowerment for decision making, further limit their ability to plan their family. Strengthening of family planning services could yield better results.

Table 3: ANTE-NATAL CARE STATUS

ANC Status	Present Study		Sarwar et al. (2006)[11]	Arora R et al. (2001)[xiv]
	No. of cases	Percentage		
Booked	38	38%	-	-
Unbooked	62	62%	100%	62%

In the present study, higher frequency of unbooked cases 62 (62%) was seen as they were referrals, most of them had no antenatal checkups and only presented in hospital as obstetric emergencies. A tertiary centre receives more unbooked cases as emergencies because of availability of operative services, blood bank facilities and high quality of neonatal care. Our study showed a parallel result with the studies conducted by Sarwar et al., (2006)[11] and Arora et al., (2001)[14].

Table 4: Type of bleeding

Type of bleeding	Present Study		Tikannen et al. (2010)[xv]
	No. of cases	Percentage	
Mild	27	27%	-
Moderate	58	58%	80%
Severe	10	10%	-
No bleeding	05	05%	-

Majority of the cases came with complaint of bleeding per vaginum, as blood escapes out the cervix after travelling between membranes. Most of the cases, 58 (58%) presented with moderate bleeding and heavy bleeding was seen in 10 (10%) cases which can be compared to the observation made by Tikkanen et al.,(2010) showing 80% moderate cases.

Perinatal Outcome

Table 5: Fetal Outcome

Complication	Present study		Sarwar et al. (2006)[11]	Arora et al. (2001)[14]	Musarrat et al. (2004)[xvi]
	No. of cases	Percentage			
Alive	78	78%	-	-	49.36%
Still birth	22	22%	67.9%	53.5%	50.63%

As per the above table, it was evident that 78% of the neonates were born alive. Contrastingly, as per the study of Sarwar et al., (2006), Arora et al., (2001) and Musarrat et al., (2004) majority of the neonates had stillbirth with 67.9%, 53.5% and 50.63% respectively.

Table 6: APGAR Score

APGAR score	Present Study		Iram et al. (2006)[xvii]
	No. of cases	Percentage	
0	22	22%	58.5%
1 – 4	8	08%	9.4%
5 – 10	70	70%	32.1%

From the above table it was clear that the 70% of the patients had an APGAR score ranging from 5-10 on the contrary Iram et al., (2006)[17] found that the APGAR score of 58.5% of the patients had an APGAR score of 0.

Table 7: Birth Weight

Birth Weight (gms)	No. of patients		Arora R et al. (2001)[14]	Musarrat et al. (2004)[16]
	No. of cases	Percentage		
1000- 1499	14	14%	-	29.11%
1500- 2499	48	48%	67%	58.22%
2500- 3999	38	38%	-	6.32%
4000+	0	0	-	6.32%

The neonatal weights ranged from 1.0 -4.0 kg, the distribution pattern shows 48 (48%) neonates in the range 1500-2499 gms, 14 (14%) neonates in the range 1000-1499 gms and 38 (38%) neonates in the range 2500-3999 gms. There was a significant correlation between low birth weight and abruptio placenta, which is comparable to 58.22% found in the study by Musarrat et al.,(2004)[16]. This could be because the pregnancies required earlier termination due to the severity of the disease. Low birth weights could be attributed to maternal nutritional status or constitutional.

Conclusion

In light of the current study, it was found that the incidence of Accidental haemorrhage was 0.4%. The study also identified that 60% of the cases were multigravida having parity from 2-4. Furthermore, the study found that 22% of cases were stillbirth; there was 8 neonatal deaths contributing to increased perinatal mortality of 30%

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