Study of Factors Associated with Abruptio Placenta and Maternal and Fetal Outcomes

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Abstract: *This study of 80 cases of Abruptio Placenta in a year (Jan 2014 to Dec 2014) is done at civil hospital, Ahmedabad .Study includes various risk factors and maternal and fetal outcome associated with the condition.* <u>*Materials and Methods:*</u> *This is a retrospective study. The cases included were diagnosed on clinical manifestations and USG findings basis.* <u>*Result:*</u> *Incidence of Abruptio in year 2014 is 1.05 % in our study at civil hospital. Age group 20 to 30years is most affected one.Most of cases i.e.60 cases(80%) were multipara signifying multiparity as major risk factor.29 cases(36.25%) had PIH with 23cases(28.75%) having severe PIH .29cases (36.25%) had vaginal delivery whereas 14 cases (17.5 %) underwent caesarean section .3cases (3.7 %) had jaundice, 2 cases (2.5 %) Diabetes with 6 cases (7.5%) of Hydramnios and 4 cases (5 %) of PROM.In 30 cases (37.5%) anemia was associated clinical finding of which 14 cases (17.5%) had severe anemia. Retroplacental clot size 51-400cc observed in 48cases (60%). In 31cases(38.75%) babies were of 34 weeks maturity out of 39cases (48.75%) live born. Out of the 80 cases 41 cases (51.25%) had still born babies that suggests poor perinatal outcome .Of the 80 mothers 29(36.25%)developed DIC and 10 (12.5%)PPH ,making them major sequel complications of abruptio placenta and other being Renal failure 4 cases(5%). Conclusion: Abruptio placenta remains a significant cause of perinatal morbidity and mortality and of serious concern in the developing world. Abruptio presents with poor prognosis as majority present with IUD Early detection and management of modifiable risk factors (anemia ,P.I.H and multiparity) for placenta abruption in developing countries may help to reduce the incidence of placenta abruption. All women at risk should be strictly followed up and proper antenatal care should be provided.*

Keywords: Abruptio placenta Retroplacental clot , anemia , PIH.

1. Introduction

Placental abruption is defined as the partial or complete separation of a normally implanted placenta from the uterine wall before delivery of the fetus.Word abruptio means "rending asunder of placenta" denotes sudden accident.

Abruptio occurs in 6.2 in every 1000 singleton pregnancies and 12.2 in every 1000 twins throughout the world. The rate of placental abruption varies by gestational age at delivery , the rate being 10-fold higher at very preterm gestations and sharply declining as pregnancy progresses toward term, with a rate of abruption of 5.4% and 0.3% at preterm and term gestations respectively.

Risk factors for the occurrence of placental abruption includes:
Multiparity ,Intrauterine infection ,Premature rupture of membranes (PROM), Smoking during pregnancy , Trauma, Gestational hypertension, Intrauterine growth restriction (IUGR),Oligohydramnios, Diabetes Mellites , Jaundice.

Types
There are 3 types :
- Revealed Haemorrhage
- Concealed Haemorrhage
- Mixed

Maternal adverse outcomes are DIC ,Renal failure, PPH, ICU Admission , Oliguria,Puerperal sepsis.Fetal complications include IUGR ,preterm and IUD.

2. Materials and Methods

80 cases are considered for this study.

The study was conducted taking into consideration cases of abruptio at Obs and Gynec Dept., for a period of one year (Jan 2014. To Dec 2014)

This is a retrospective study.
Gestational age was determined based on the mother's last menstrual period and first and second trimester obstetric ultrasonography.

Inclusion Criteria
- Vaginal bleeding, abdominal pain, uterine tenderness and was confirmed by the placental detachment after delivery
- The presence of hematoma during a caesarean section.
- USG finding suggestive of abruption.

3. Results

Table 1: Age (years)

Sr . no	Age (years)	No.of cases(n=80)	Percentage
1	20-25	40	50%
2	26-30	34	42.5 %
3	31-35	06	7.5 %

Most common age group is 20- 30 years accounting to 92.5%.

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Table 2: Risk Factors

Sr no	Risk factors			No. of cases (N = 80)	Percentage (%)
1	Gravida		Primi	16	20%
			Multi	53	66%
			Grand multi	21	26%
2	Medical Disorders		Anemia	30	37%
			Mild	10	12.5%
			Moderate	06	7.5%
			Severe	14	17.5%
			PIH		2.5%
			Mild	02	5%
			Moderate	04	28.75%
			Severe	23	
			Diabetes	02	2.5%
			Jaundice	03	3.7%
3			Hydramnios	06	7.5%
4			PROM	04	5%

Only 20% of cases were primi , 80 % multipara making multiparity significant risk factor.In 30 cases (37.5%) anemia was associated clinical finding of which 14(17.5%) had severe anemia. 29 (36.25%) cases had PIH with 23 (28.75%) cases having severe PIH.3 (3.7 %) had jaundice, 2 (2.5 %) Diabetes with 6 (7.5 %) cases of Hydramnios and 4 (5 %) cases of PROM.

Table 3: Mode of Delivery

Sr No.	Mode of Delivery	No. of cases (N = 80)	Percentage
1	Vaginal Delivery	54	67.5%
4	Caesarean section	26	32.5%

Vaginal delivery in 33.7% was observed whereas 17.5 % underwent caesarean section.

Table 4: Retroplacental Clot size (cc)

Sr no	Amount (cc)	No of cases(N = 80)	Percentage
1	0-50	18	22.5%
2	51-100	21	26.25%
3	101-200	14	17.55%
4	201-400	13	16.25%
5	401-600	08	10%
6	601-1000	02	2.5%

Table 5: Fetal Outcome

Sr no.	Fetal outcome	No. of cases (N = 80)	Percentage
1	Stillborn	41	51.5%
2	Live term	8	10%
3	Live preterm	31	38.75%

Fatal perinatal outcome seen with 51.5 % stillborn.

Table 6: Correlation with baby weight

Sr no.	Weight of neonate (kg)	No. of cases (N = 80)	Percentage
1	< 1.5	12	15%
2	1.5 - 2.5	19	23.75%
3	2.6 – 3.0	04	5%
4	3.1 – 3.5	04	5%

Preterm delivery observed in 23.75 % cases.

Table 7: Maternal adverse outcomes

Sr no.	Adverse outcomes	No. of cases(N = 80)	Percentage
1	DIC	29	36.25%
2	Renal Failure	04	5%
3	PPH	10	12.5%
4	Hysterectomy	04	5%
5	Maternal mortality	03	3.75%

4. Discussion

Age group 20 to 30 years is most affected one .16 cases (20%) were Primi Most of cases (80%) were multipara signifying multiparity as major risk factor. In 30 cases (37.5%) anemia was associated clinical finding of which 14 cases (17.5%) had severe anemia. 29 cases (36.25%) had PIH with 23 cases (28.75%) having severe PIH .3 cases (3.7 %) had jaundice, 2 cases (2.5 %) Diabetes with 6 cases (7.5%) of Hydramnios and 4 cases (5 %) of PROM. 29 cases (36.25) had vaginal delivery whereas 14 cases (17.5 %) underwent caesarean section .Retroplacental clot size 51-400cc observed in 48 cases (60%) whereas 18 cases (22.5%) had clot size 50cc . 8 cases(10%) had clot size ranging between 401-600cc and 2 cases (2.5 %) had clot size ranging between 601-1000cc. 31 (38.75%) babies had maturity < 34 weeks out of 39 babies (48.75%) live born .

Out of the 80 cases 41cases(51.25%) had still born babies that suggests poor perinatal outcome. Of the 80cases 27 cases (33.7%) developed DIC and 10 cases (12.5%) PPH making them major sequel complications and other being Renal failure 3 cases (3.75%).

Life saving blood products like fresh frozen plasma,platelet concentrates and fresh blood are very useful to improve the outcome in DIC complicating Abruptio placenta.

Late presentation to the hospital with advanced complications and presence of co-morbidities like Diabetes, anemia, jaundice and pre eclampsia necessitated close monitoring in ICU.

Fetal outcome correlates with the severity of abruption , gestational age, amount of haemorrhage, PIH. Even the new born is at risk of morbidities like DIC , Respiratory distress syndrome, Hyperbilirubinemia, CNS depression from anemia. All women at risk should be strictly followed up and proper antenatal care should be provided.

5. Conclusion

Abruptio placenta remains a significant cause of Maternal morbidity and perinatal morbidity and mortality and of serious concern in the developing world.

Early detection and management of modifiable risk factors(anemia , PIH and multiparity) for placenta abruption in developing countries may help to reduce the incidence of placenta abruption.

Good regular antenatal visits and availability of medical services remains the backbone for good maternal and perinatal outcome in abruptio.

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