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Dr. Meenal Patvekar
Professor, Department of Obstetrics and Gynaecology, Dr. D Y Patil Vidyapeeth, Pimpri, Pune, Maharashtra, India

Dr. Yogesh Thawal
Associate Professor, Department of Obstetrics & Gynaecology, Dr. D Y Patil Vidyapeeth, Pimpri, Pune, Maharashtra, India

Dr. Dipak Kolate
Assistant Professor, Department of Obstetrics & Gynaecology, Dr. D Y Patil Vidyapeeth, Pimpri, Pune, Maharashtra, India

Dr. Amrita Bhola
Junior Resident, Department of Obstetrics & Gynaecology, Dr. D Y Patil Vidyapeeth, Pimpri, Pune, Maharashtra, India

Dr. Bhargavi N
Junior Resident, Department of Obstetrics & Gynaecology, Dr. D Y Patil Vidyapeeth, Pimpri, Pune, Maharashtra, India

Dr. Princy Panthoi KH
Junior Resident, Department of Obstetrics &Gynaecology, Dr D Y Patil Vidyapeeth, Pimpri, Pune, Maharashtra, India

Corresponding Author:
Dr. Yogesh Thawal
Associate Professor, Department of Obstetrics & Gynaecology, Dr. D Y Patil Vidyapeeth, Pimpri, Pune, Maharashtra, India

Study of etiopathology and risk factors of antepartum haemorrhage in a tertiary care center

Dr. Meenal Patvekar, Dr. Yogesh Thawal, Dr. Dipak Kolate, Dr. Amrita Bhola, Dr. Bhargavi N and Dr. Princy Panthoi KH

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Abstract
Background: Antepartum hemorrhage (APH) is an obstetrical emergency and is one of the leading causes of maternal and perinatal mortality and morbidity. Incidence varies from 2-5% of all deliveries. It contributes to 15-20% of all maternal deaths in India. Such obstetric emergency if handled carefully with identification of risk factors and timely management of cases can reduce chances of maternal and perinatal complications.
Methods: The present study is an observational ambidirectional study focusing on antepartum haemorrhage and its maternal and perinatal outcomes in a tertiary care centre over 2 years, conducted in Dept. of Obstetrics and Gynecology of Dr. D. Y. Patil Medical College, Hospital and Research Centre, Pimpri, Pune. A predesigned semi-structured, patient-friendly questionnaire was prepared based on the review of literature on Antepartum hemorrhage.
Results: In our study it was observed that the mean age (in years) was 24.74(SD=2.83), 25.26(SD=5.48), 24 (SD=1.82) for Placenta Praevia, Abruptio Placenta & Indeterminate etiology respectively. All three groups were equally matched for maternal age as no significant difference was present in mean age of mother across all three groups (P=0.820 which is >0.05).
We found that in our study, maximum patients were of upper lower socio-economic strata 33, followed by lower socio-economic status32; Lower middle group had 13 patients.
In this study there were total 47 preterm deliveries (<37weeks) from all subtypes of APH. History from the patients was suggestive of total 29 cases with history of curettage or abortion. Out of those 29; 8 cases were of Placenta Praevia while 21 cases were of Abruptio. 12 cases had history of trauma. we also found that found total of 29 cases with history of infection & premature rupture of membrane. Out of these 29; 3 were of Placenta Praevia, 25 belonged to Abruptio & 1 of Indeterminate etiology.
In our study we found 42 cases having a history of Preclampsia/Eclampsia. 1 case belonged to Placenta Praevia, 40 cases were of Abruptio & 1 of Indeterminate etiology. The association between APH subtype & history of preeclampsia/eclampsia was highly significant.
Conclusions: From the results of our study, we conclude that antepartum haemorrhage is a major contributing factor to maternal and perinatal morbidity and mortality but when well-managed, outcome can be improved.

Keywords: APH, preeclampsia, placenta Praevia, Abruptio placenta, Multiparity

Introduction
Antepartum Haemorrhage (APH) is an important condition complicating 2-5% of pregnancies. APH predisposes foetus at risk for pre-term delivery, low birth weight & increased perinatal mortality. Also there are dire consequences for mother ranging from increased anxiety to severe haemorrhage requiring intensive care [1].
Antepartum Haemorrhage (APH) is defined as any vaginal bleed from the female genital tract occurring during pregnancy from the time of potential foetal viability to delivery of the baby [1, 2].

A. Placenta Praevia
It is defined as implantation of placenta in the lower uterine segment.

Incidence & risk factors
It complicates 3-5 per 1000 pregnancies [3]. Risk factors include previous Caesarean section, multiparity, increased maternal age, placental size, smoking. Relative risk for placenta praevia in

Subsequent pregnancy is estimated to be 1.5. Other risk factors include advanced maternal age and increasing parity.

B. Placental Abruption

Placenta is normally situated in upper uterine wall. Placental abruption is defined as complete or partial separation of placenta from the uterine wall, thereby resulting in haemorrhage before the delivery. It's incidence vary from 0.5-1.3% [2, 3].

Risk Factors

1. **Pre-pregnancy factors:** previous history of abruption in previous pregnancy, previous caesarean section and uterine malformations.
2. **Risk factor associated with current pregnancy:** smoking; alcohol, placenta praevia, pre-ecclampsia, chorio-amnionitis, bleeding in 2nd or 3rd trimester, increase maternal serum alpha fetal protein and premature prelabour rupture of membrane.
3. **Preventable risk factors:** tobacco and cocaine use [2, 3, 4]

C. Antepartum Haemorrhage of indeterminate origin

In about half of cases, bleeding is of unknown origin. Local causes can be ruled by a speculum examination such as cervical polyp, carcinoma cervix and cervical erosion. The most common presentation is of painless vaginal bleed without any evidence on ultrasound. Placenta praevia is ruled out by an USG but placental abruption is diagnosed mainly based on clinical examination [3].

In most of the cases of APH, bleeding is mild & settles spontaneously & further management will be expectant delivery. Serial monitoring is required for 48 hours & if bleeding has been settled then she can be managed as an out-patient. If gestational age is around 34-36 weeks then ante-natal steroids should be administered in view of preterm delivery.

Antepartum haemorrhage is associated with grave outcome for mother and timely management is crucial.

Our study aims to find out outcomes of antepartum haemorrhage on population living around Pune which is on Western coast of India.

Aims and Objectives

- To analyse different causes and risk factors for antepartum haemorrhage (APH).
- To study etiopathology of APH.
- To reduce the incidence of antepartum haemorrhage.

Materials and Method

The present study is an observational ambidirectional study focusing on antepartum haemorrhage and its maternal and perinatal outcomes in a tertiary care centre, conducted on 80 patients of Dept. of Obstetrics and Gynecology of Dr. D. Y. Patil Medical College, Hospital and Research Centre, Pimpri, Pune. The Period of study was from August 2017 to July 2019.

A predesigned semi-structured, patient-friendly questionnaire Was prepared based on the review of literature on Antepartum hemorrhage.

Inclusion criteria

All pregnant women presenting with bleeding per vagina in pregnancy who were willing to participate in study.

Exclusion criteria

Pregnant women presenting with bleeding per vagina who were not willing to participate in study.

The questionnaire included the information regarding age, gestational age, Parity, history of abortions, prior obstetric history, co-morbidity and addiction. It also included information regarding amount of blood loss, risk factors, mode of delivery, birth weight of child, causes of APH, blood transfusion, management of APH and maternal morbidity. After collection of data, the data entry forms were checked for their completeness and missing and incomprehensible data was rechecked from the respective participant profile.

Source of Funding:

- Investigations done on OPD basis are all routinely done in an ANC patient and the cost was borne by the patient.
- The cost of investigations for IPD patients is nil and free of cost in the institute when delivery is conducted.
- The consent of workup required was self-funded.

Results

In our study sample size was 80(N), out of them 23 cases were of placenta praevia, 53 cases of abruption placentae & 4 cases of indeterminate etiology.

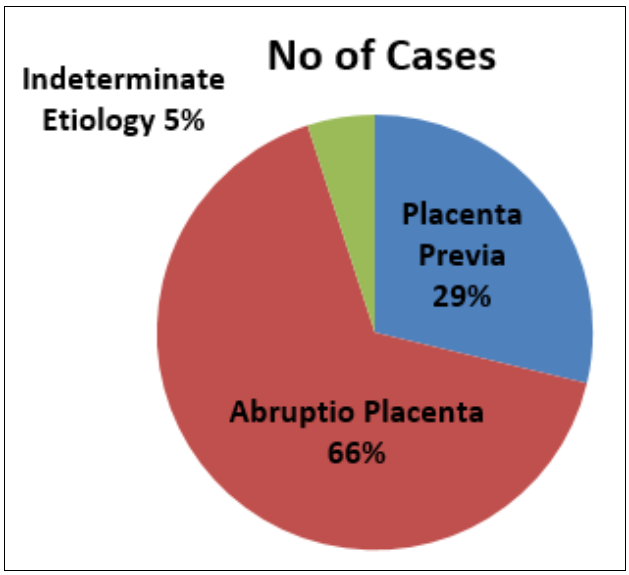

Fig 1: Types of APH and number of cases.

Table 1: Maternal Age distribution according to APH subtype

Age Groups (years)	APH Subtype			Total
	Placenta Praevia	Abruptio Placentae	Indeterminate etiology	
18-24	14	35	3	52
25-29	9	12	1	22
30-34	0	1	0	1
>35	0	5	0	5
Total	23	53	4	80

Chi square test (Likelihood Ratio=6.53; p=0.36)

Above table shows the group wise age distribution according to APH subtypes.

All three groups had no significant difference in group wise age distributions (p=0.36).

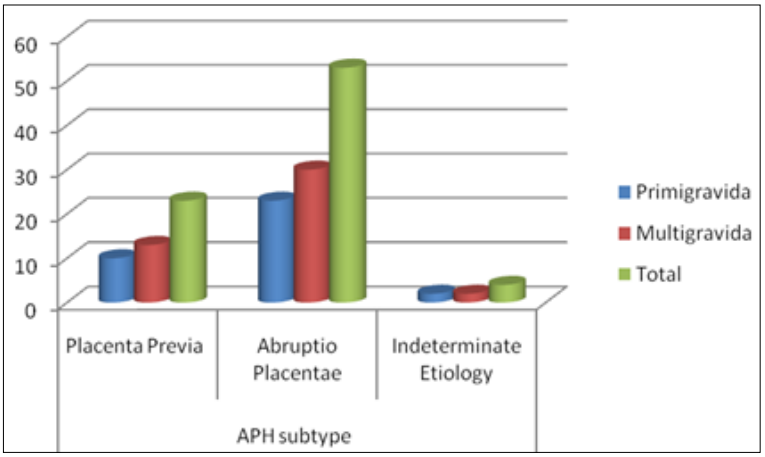

Fig 2: Distribution of cases according to parity

In our study, we found that placenta praevia had 10 and 13 cases of primigravida and multigravida respectively. Abruptio Placentae group had 23 and 30 cases of primi-gravida& multi-gravida respectively. While, Ante partum haemorrhage due to indeterminate etiology had 2 cases each of primigravida & multigravida. The distribution of cases had no statistical significance (p=0.967).

Table 2: APH subtype based on registration of cases

Registration	APH subtype			Chi square test
	Placenta Praevia	Abruptio placenta	Indeterminate etiology	
Un registered	1	3	0	(Likelihood ratio)=5.84 P value=0.211
Registered at an urban centre	16	24	1	
Registered rural centre	6	26	3	
Total	23	53	4	

In our study we found that 4 cases were unregistered (1 of placenta praevia, 3 of abruptio). 41 cases were registered at urban centres (16 placenta praevia; 24 abruptio placenta & 1 of Indeterminate etiology). 35 cases were registered at rural PHC (6 cases were of placenta praevia; 26 cases were of abruptio & 3 cases were of Indeterminate etiology).

Table 3: Comparison of Mean Gestational Age in different APH subtype.

APH type	No of cases	mean Gestational age of baby (weeks)(SD)	Standard Deviation
Placenta Praevia	23	35.82	4.81
Abruptio Placenta	53	34.22	3.75
Indeterminate Etiology	4	32.72	5.75

(P value =0.207)

Above table shows mean gestational age of babies according to APH subtype. Placenta Praevia had 23 cases and mean age was 35.82 weeks (SD=4.81); Abruptio Placentae had 53 cases and mean age of the group was 34.22 weeks (SD=3.75); 4 cases were of Indeterminate etiology and mean age of the group was 32.72 weeks (SD=5.75). There was no statistical significant difference between the three groups (F=1.60; p=0.207).

In our study we found most of the patients (25 cases) in 37 to 39 week category. We also found 14, 17, 16 & 25 cases in 28-30 week, 31-33 week, 34-36 week & 40-42 weeks respectively. There was no significant difference between groups in terms of distribution of gestational age (p value=0.111).

Table 4: Distribution according to co-morbidity (multiple co-morbidities possible in combination)

Co-morbidity	Frequency	Percent
Diabetes Mellitus	12	15.0
Hypertension	30	37.5
Anemia	20	25.0
No significant co-morbidity	34	42.5

Table 5: Risk factors of placenta praevia.

Risk factors	Cases of placenta praevia	percentage
Advanced maternal age	0	0
multiparity	13	56.5
Tobacco abuse	11	47.8
h/o abortion/curettage	8	34.7
Previous LSCS	4	17.3
malpresentation	8	34.7

In our study we found that amongst the 23 cases of placenta praevia 13 were multiparas amounting to 56.5%, 11 had history of tobacco abuse amounting to 47.8%. 8 had history of abortion or curettage in previous pregnancy i.e. 34.7%.4 cases had history of previous LSCS -17.3%, and 8 cases were associated with malpresentations amounting to 34.7%.

Discussion

APH remains a major cause of both maternal and perinatal mortality and morbidity worldwide more so in developing countries.

In the present study, Placenta Praevia had 23 cases (28.7%) and mean age was 35.6 weeks (SD=5.26); Abruptio Placentae had 53 cases (66.2%) and 4 (5%) cases were of Indeterminate etiology. Similar results were observed in study by Sharmila *et al.* [5] In contrast to above studies, other Indian studies by Tyagi *et al.* & Majumdar *et al.* reported higher cases of Placenta Praevia (Placenta Praevia-80%, Abruptio-20%; Placenta Praevia-66%, Abruptio-34% respectively [6, 7]

In the present study the mean age of the participants was across all three groups to be 24.74, 25.26 & 24.00 in placenta praevia, abruptio placenta & APH due to indeterminate etiology group respectively. It was observed that 52 cases (65%) belonged to 18-24 years of age, 22(27.5%) cases were in between 25-29year of age, 1 (1.2%) was between 30-34years age group and 5 (6.2%) cases were above 35years age group. This is in accordance with an Indian study done by Majumdar S *et al.* involving 100 cases of antepartum haemorrhage, where maximum cases belonged to age less than 25 years [6].

Other Indian study by Surabhi Tomar Sharma &Samal S.K. *et al.* in patient of APH, found that most of the patients were in age group of 26-30 years [8, 9].

Similarly Sharmila G & Prasanna also reported that maximum number of patients belonged to 20-30 years of age. One Indian study differs in their observation from above mentioned Indian studies, where authors reported more advanced maternal age (>30 years) [10].

In our study, placenta praevia had 10 and 13 cases of primigravida and multigravida respectively. Abruptio placentae group had 23 and 30 cases of primi-gravida& multi-gravida respectively. While, Ante partum haemorrhage due to Indeterminate etiology had 2 cases each of primigravida & multigravida (p=0.967). Out of total 80 cases, 45(56%) were multigravida & all three groups had no significant difference in distribution (chi sq likelihood ratio =0.066; p=0.967). This is in accordance with an analytical study conducted by Majumdar S *et al.* involving 100 cases. They reported that maximum cases of APH were multigravida (88%) [6]

While two more studies Sharmila *et al.*, [9] and Prasanna *et al.*, [5] were noted consistent findings with our study.

In our study, we found most of the patient in lower (36 cases) to lower middle class (37 cases). One possible reason could be due to high migrant worker population in vicinity of our centre. Similarly these findings have been reported by other Indian studies as well [2, 11].

In our study we found that 4 cases (5%) were unregistered (1 of placenta praevia, 3 of abruptio). 41 cases (51%) were registered at urban centres (16 placenta praevia; 24 abruptio placenta & 1 of Indeterminate etiology). 35 cases (43%) were registered at rural PHC (6 cases were of placenta praevia; 26 cases were of abruptio & 3 cases were of Indeterminate etiology).

In the study by Khan *et al.* & Majumdar *et al.* maximum patients were from urban areas. Residence did not have much effect on APH (P = 0.199), according to their study [6, 12].

Our study findings were contrast to stTakai U.I. *et al.* study with a higher number of un-booked cases [12].

In our study we found 42(52.5%) cases having a history of Preeclampsia/Ecclampsia. 1(4.3%) case belonged to Placenta Praevia, 40(75.4%) cases were of Abruptio placentae. There were 38 cases with no history of either preeclampsia or eclampsia. The association between APH subtype & history of preeclampsia/eclampsia was highly significant (chi square test =38.92, p value =0.000). Similar findings were reported by Wasnik *et al.* [11, 7] Khan *et al.* [1, 10]

In our study we found total of 29 (36.2%) cases with history of infection & premature rupture of membrane. Out of these 29, 25 (47.1%) belonged to Abruptio placentae. There was significant association of history of infection & PROM with APH subtype (p=0.010). Khan *et al.* [11] and Bibi *et al.* reported PROM to be a significant cause of Abruptio placentae [11].

In our study we found total 29 (36.2%) cases which had history of curettage or abortion. Out of those 29; 8 cases (34.7%) were of Placenta Praevia. We found 51 cases with no history of curettage or abortion. There was no significant association of APH with history of curettage in our study (chi square likelihood ratio=3.88; p value=0.144). Majumder *et al*, in their study concluded that amongst the patients with placenta praevia 8% had previous curettage [7]

In our study we found total 16 cases (20%) with history of previous LSCS out of them 4(17.3%) were of placenta praevia.

Previous history of cesarean section appears to be associated (32.48%) with APH according to study by Khan *et al.* [1, 2] and 12% according to study by Majumder *et al.* [6] Findings of these studies were consistent with our study.

Conclusion

From the results of our study, we conclude that antepartum haemorrhage is a major contributing factor to maternal and perinatal morbidity and mortality but when well-managed, outcome can be improved.

The study of ours here focuses to study the predisposing risk factors, etiopathogensis and outcome of antepartum haemorrhage. In an attempt to improve maternal and perinatal outcome in a tertiary care center, even for the referred cases.

References

1. Morgan K, Arulkumaran S. Antepartum haemorrhage. Current Obstetrics & Gynaecology. 2003; 13(2):81-87.
2. Mukherjee S, Bhide A. Antepartum haemorrhage. Obstetrics, Gynaecology & Reproductive Medicine. 2008; 18(12):335-339.
3. Ngeh N, Bhide A, Antepartum haemorrhage. Current Obstetrics & Gynaecology. 2006; 16(2):79-83.
4. Tikkanen M, Nuutila M, Hiilesmaa V, Paavonen J, Ylikorkala O. Clinical presentation and risk factors of placental abruption. Acta Obstetricia et Gynecologica Scandinavica. 2006; 85(6):700-705.
5. Sharmila G Prasanna. 'Maternal and perinatal outcome in antepartum hemorrhage', IAIM. 2016; 3(9):148-160
6. Majumder S, Shah P, Deliwala K, Patel R, Madiya A. Study of foetomaternal outcome of antepartum haemorrhage in pregnancy. 2017; 4(6):1936-1939.
7. Tyagi P, Yadav N, Sinha P, Gupta U. Study of antepartum haemorrhage and its maternal and perinatal outcome. Int. J Reprod Contracept Obstet Gynecol. 2016; 5:3972-7
8. Sharma ST. 'Clinical study of maternal and fetal outcome associated with abruptio placentae', Med Pulse–International Journal of Gynaecology. 2019; 11(2):40-44. ISSN: 2579-0870, Online ISSN: 2636-4719.
9. Samal SK, Rathod S, Rani R, Ghose S. 'Maternal and perinatal outcomes in cases of antepartum haemorrhage: a 3-year observational study in a tertiary care hospital', International Journal of Reproduction, Contraception, Obstetrics and Gynecology. 2017; 6(3):1025-1029.
10. Maiti S, Kanrar P, Karmakar C, Chakrabarti S, Mandal A. Risk Factors of Placenta Praevia among Rural Indian Women. Journal of Evolution of Medical and Dental Sciences. 2014; 3(65):14163-14168.

11. Bibi S, Ghaffar S, Pir MA, Yousfani S. Risk factors and clinical outcome of placental abruption: a retrospective analysis. J Pak Med Assoc. 2009; 59(10):672-4
12. Khan M, Saraswathi K, Shyamala R, Azam I, Salman M, Ali S *et al.* Placental Abruption An Obstetricians Nightmare-A Study of Risk Factors and Maternofoetal Outcomes at Two Tertiary Care Teaching Hospitals in South India. Asian Pacific Journal of Health Sciences. 2017; 4(1):220-230.