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Research Article

THE STUDY OF MATERNAL AND PERINATAL OUTCOME IN ANTEPARTUM HEMORRHAGE

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ABSTRACT

Objective: To study the incidence, demographic profile, maternal and perinatal outcome in cases of Antepartum Hemorrhage (APH). **Materials and methods**: A retrospective study was conducted at a tertiary care centre over a period of one year (May 2017 to April 2018.) All pregnant women who presented with APH were included in the study and their case record files were studied. The data was collected on a predesigned proforma and percentage analysis was done. **Results**: The incidence of antepartum hemorrhage was 1.16%. Most patients of APH were between the age group of 26-30 years. In abruptio placenta (AP) 60% and in placenta previa (PP) 69.56% of the patients were multiparous. Most of the cases presented after 37 weeks of gestation. Overall increased rate of cesarean sections was seen i.e. up to 95%. In AP 5% and in PP 8.69% underwent caesarean hysterectomy. In AP 30% patients had massive blood transfusion. About 90.6% cases had live births and 9.3% resulted in intrauterine death. Neonatal intensive care unit admissions were seen in 55% in AP and 34.78% in PP cases. **Conclusion:** Antepartum hemorrhage is a grave obstetrical emergency and is associated with high rate of maternal and perinatal morbidity and mortality. As there are no predictors for APH, when diagnosed should be actively managed. Early diagnosis and timely referral and intervention is needed to reduce the high morbidity and mortality seen with APH.

Keywords: APH, Placenta Previa, Abruptio placenta

Introduction:

Hemorrhage emerges as the major cause of severe maternal morbidity in almost all 'near miss' audits in both developed and developing countries.[1] Antepartum hemorrhage is defined as bleeding from or into the genital tract, occurring from 28 weeks of pregnancy and prior to the birth of the baby. The major causes of APH are Placenta Previa (PP) and Abruptio Placenta (AP). Other causes are vasa previa, succenturiate placenta, placental infections, and non-obstetric causes like cervical polyp, cervical erosion, carcinoma cervix, varicose veins and local trauma. APH complicates 3–5% of all pregnancies and is a leading cause of perinatal and maternal mortality worldwide. It complicates 2.8/1000 singleton pregnancies and 3.9/1000 twin pregnancies. APH is most dreaded obstetric complication leading increased maternal and fetal morbidity and mortality.

PP refers to the condition when the placenta is partially or completely implanted over the lower uterine segment, either over or near the internal os. There are two types of PP i.e Complete PP where the placenta covers the internal cervival os and Marginal PP where the placenta is located within 2cm

from the internal os. The risk factors for PP are previous PP, previous caesarean sections, previous termination of pregnancy, multiparity, advanced maternal age, multiple pregnancy, smoking, assisted conception and conditions with deficient endometrium.[2-8]

AP is the condition where bleeding occurs due to partial or complete premature separation of a normally situated placenta before delivery. The most common risk factor is previous pregnancy complicated by abruption. Abruption recurs in 19–25% of women who have had two previous pregnancies complicated by abruption.[9] Other risk factors for placental abruption include: pre-eclampsia, fetal growth restriction, non-vertex presentations, polyhydramnios, advanced maternal age, multiparity, low body mass index (BMI), pregnancy following assisted reproductive techniques, intrauterine infection, premature rupture of membranes, abdominal trauma (both accidental and resulting from domestic violence), smoking and drug misuse (cocaine and amphetamines) during pregnancy.[10,11]

Severity of haemorrhage in APH is classified by amount of bleeding as spotting (staining or streaking), minor hemorrhage (<50 ml, no shock), major hemorrhage (50–1000 ml, no shock), and massive haemorrhage (>1000 ml or signs of shock). Maternal complications due to APH are anemia, infection, maternal shock, renal tubular necrosis, consumptive coagulopathy, postpartum haemorrhage, prolonged hospital stay, psychological sequelae and complications of blood transfusion. Fetal complications are fetal hypoxia, prematurity (iatrogenic and spontaneous), small foe gestational age, fetal growth restriction and fetal death. Perinatal mortality is high in India 60/1000 total births compared to 10 per 1000 total births in developed countries.[12] In developing countries the high morbidity and mortality rate in both mother and fetus due to APH can be attributed to poor antenatal care, poverty, illiteracy, poor awareness and lack of proper medical facilities. This can be reduced by early diagnosis with good and proper antenatal care, early and timely referral services, availability of obstetric, anesthetic, neonatal units and blood bank and transport facilities.

Materials and methods: A retrospective observational study was conducted for a period of one year (May 2017 to April 2018) at Department of Obstetrics and Gynecology at Father Muller Medical College, Mangalore, India. All pregnant women who presented with APH were included in the study.

Inclusion criteria: All pregnant women presenting with APH

Exclusion criteria: Pregnant women without APH.

Statistical analysis: Data was collected from the case record files according to a predesigned proforma and percentage analysis was performed.

Results: Our study included 43 cases of APH, with an institutional incidence of 1.16%. Out of 43 cases, 20 cases were attributed to AP (46.5%) and 23 cases to PP (53.48%). Thirty-one cases (72%) were referred to our tertiary care centre.

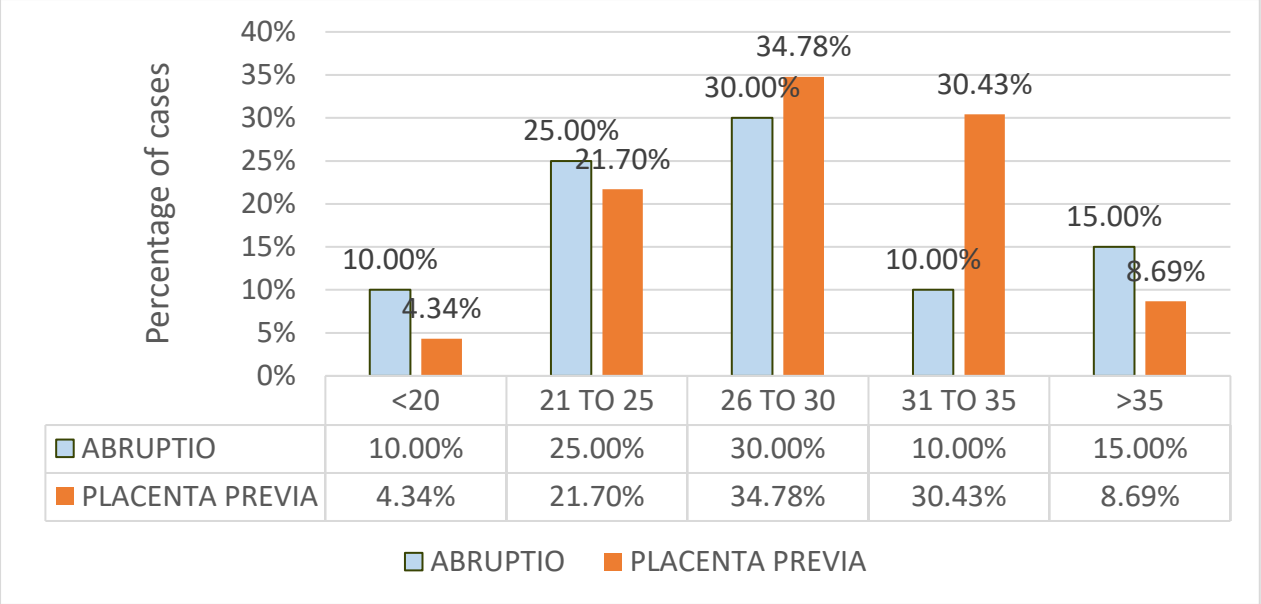


Figure 1. Age wise distribution

As shown in table 1, maximum number of APH cases were seen in 26-30 years age group, with 30% in AP and 34.78% in PP.

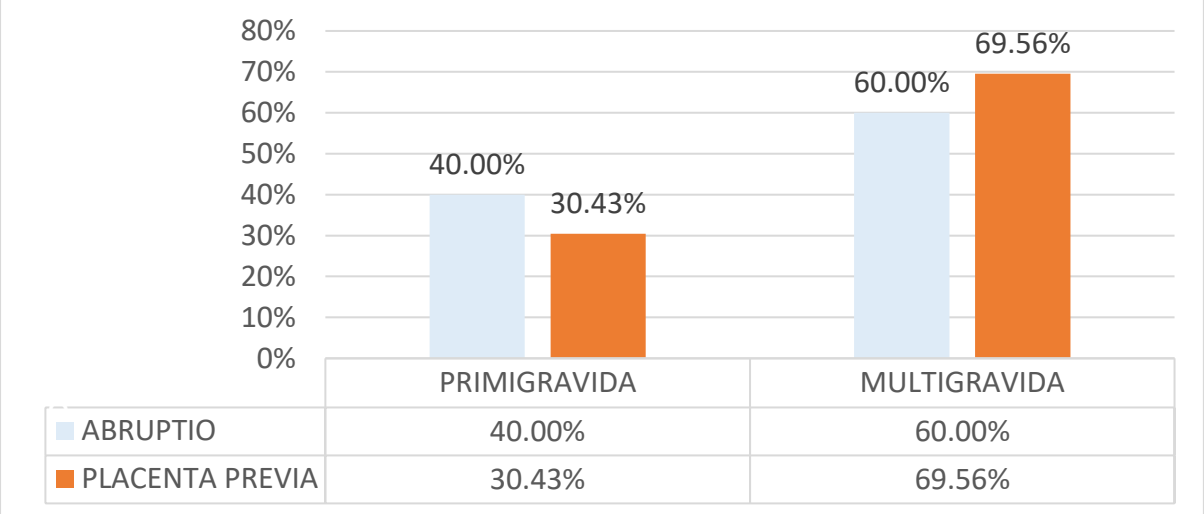


Figure 2. Parity wise distribution

In AP 60% and in PP 69.56% of the patients were multiparous.

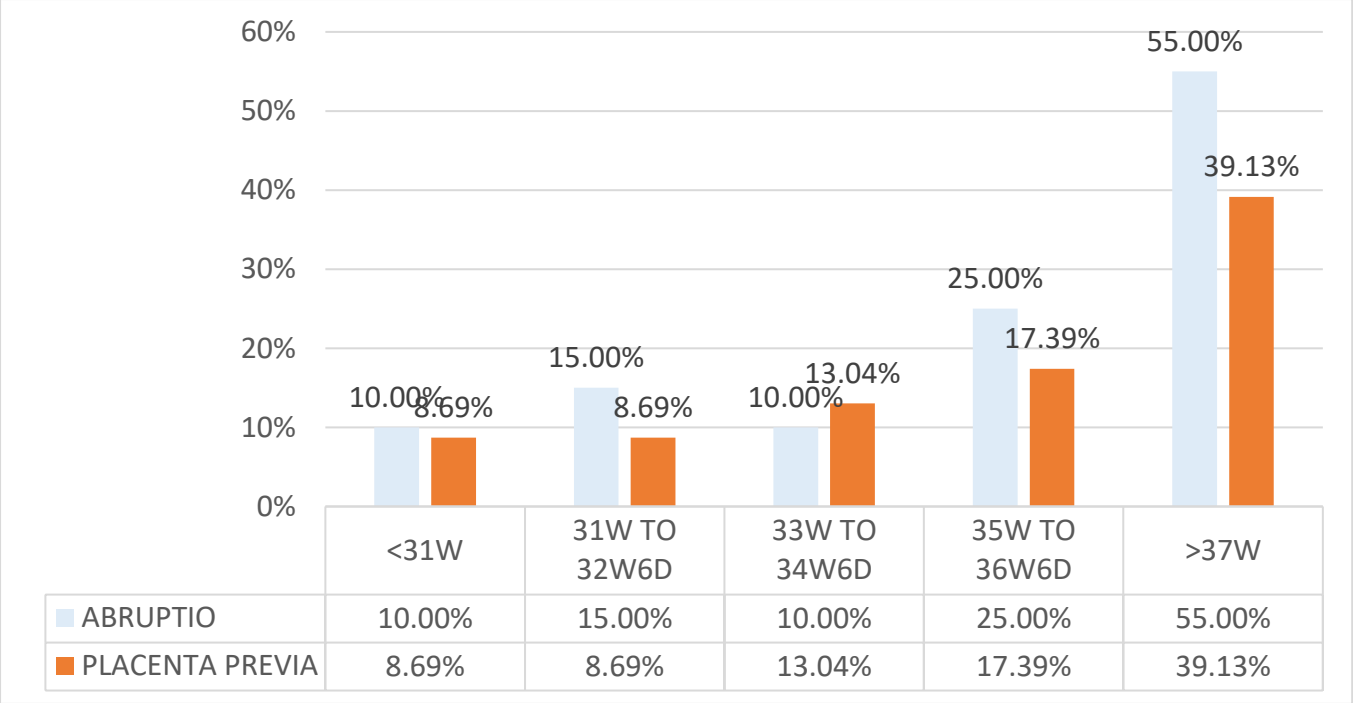


Figure 3. Gestational age wise distribution

Majority of overall APH cases in our study presented after 37 weeks of gestation. Also, majority of PP (39.13%) and AP (55%) presented after 37 weeks of gestation.

Table 1. Mode of delivery

Mode of delivery	AP	PP
LSCS	90%	100%
Vaginal	10%	-

In PP, all cases underwent cesarean delivery, while in AP 90% underwent cesarean and 10% had vaginal delivery.

Table 2. Maternal disorders

Maternal disorders	AP	PP
Previous LSCS	15%	17.39%

Rh negative	10%	13.04%
Pre eclampsia	40%	4.34%
Anemia	50%	56.52%
GDM	10%	8.69%
Malpresentations	5%	21.73%

As shown in table 2, in AP cases 15% had previous cesareans birth, 10% had Rh negative blood group, 40% had been diagnosed with Preeclampsia, 50% had anemia, 10% had Gestational diabetes mellitus (GDM) and 5% had malpresentations. In PP cases, 17.39% had a previous cesarean birth, 13.04% had Rh negative blood group, 4.34% had preeclampsia, 56.52% had anemia, 8.69% had GDM and 21.73% were associated with malpresentations.

Table 3. Distribution according to Maternal complications

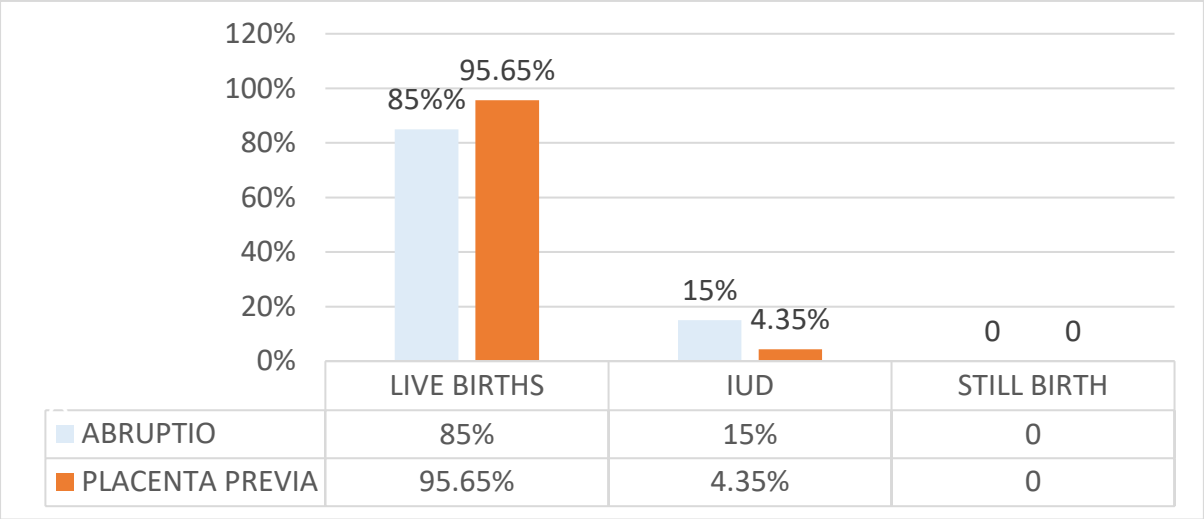
Maternal complications	**AP**	**PP**
Blood transfusion	30%	21.73%
Postpartum hemorrhage	25%	13.04%
Sepsis	10%	13.04%
Coagulopathy	15%	8.69%
Acute kidney injury	25%	4.34%
Massive blood transfusion	30%	8.69%
Cesarean hysterectomy	5%	8.69%
Couvalaire uterus	45%	-

As seen in the above table 3, blood transfusion was required in 30% of cases with AP and in 21.73% of cases in PP. Postpartum Hemorrhage (PPH) was seen in 25% of AP cases and 13.04% of PP cases.

Ten percent of AP cases and 13.04% of PP cases developed sepsis. Coagulopathy was seen in 15% and 8.69% of AP and PP cases respectively. 25% of cases with AP developed Acute kidney injury (AKI), while only 4.34% in PP developed AKI. Massive blood transfusion was seen in 30% and 8.69% of cases with AP and PP respectively. Five percent of AP cases and 8.69% of PP cases underwent Cesarean

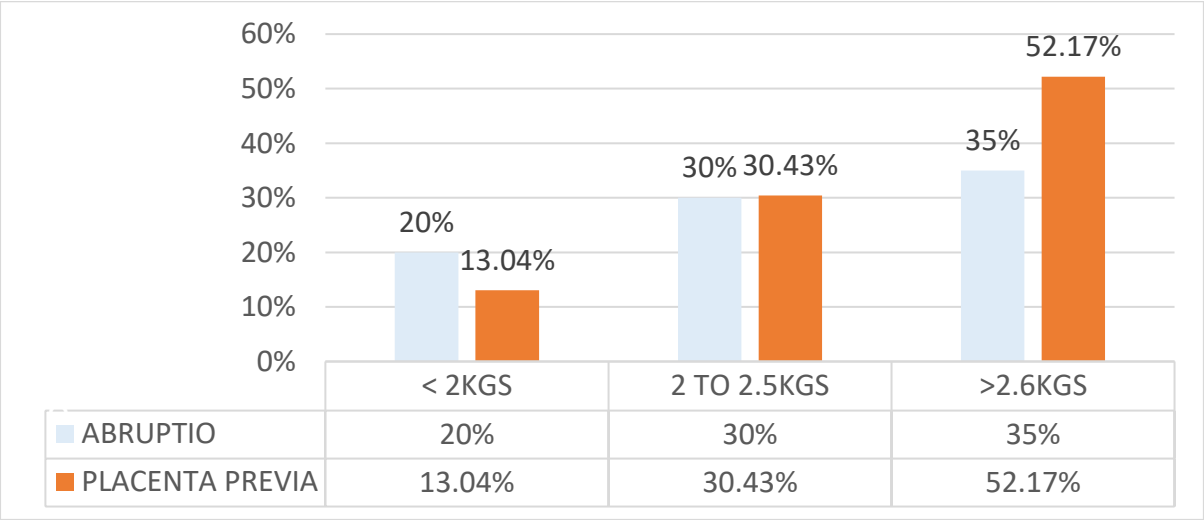
hysterectomy. Couvalaire uterus was associated with 45% of cases in AP. In our study, there was no maternal mortality.

Figure 4 . Distribution according to perinatal outcome



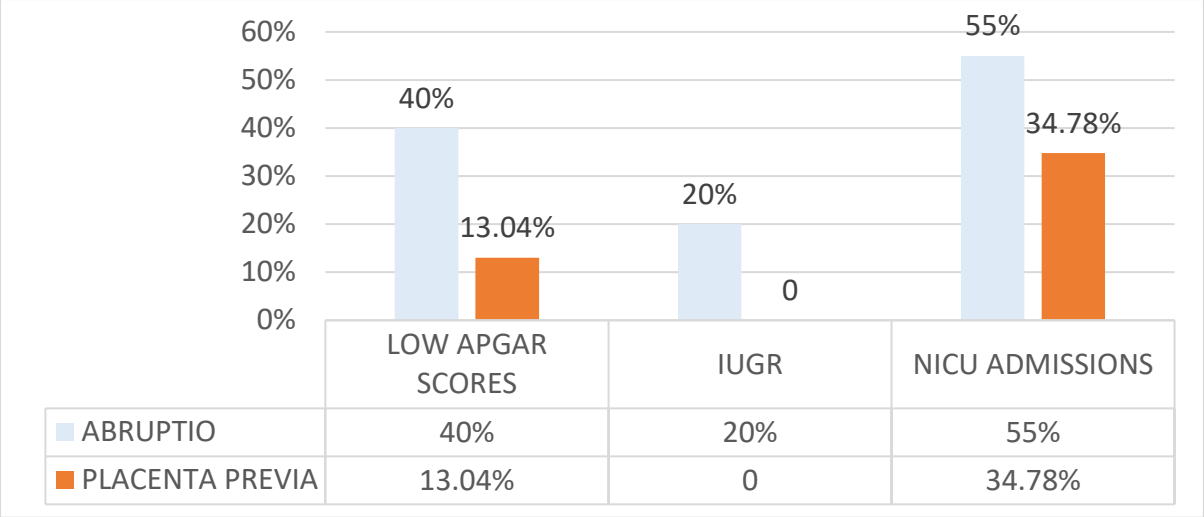
In our study, 95.65% and 85% cases of PP and AP cases had live births. Intrauterine death (IUD) was seen in 15% in AP, but only in 4.35% in PP. In our study no stillbirths were noted.

Figure 5. Distribution according to birth weight



In AP 20%, 30% and 35% of babies had birth weight <2kgs, 2-2.5kgs and >2.6kgs respectively. In PP 13.04%, 30.43% and 52.17% babies had birth weight <2kgs, 2-2.5kgs and >2.6kgs respectively.

Figure 6. Distribution according to Perinatal morbidity



	LOW APGAR SCORES	IUGR	NICU ADMISSIONS
ABRUPTIO	40%	20%	55%
PLACENTA PREVIA	13.04%	0	34.78%

In our study, in AP cases 40% babies had low APGAR scores at birth and 15% babies were associated with Intrauterine growth restriction (IUGR). In PP cases, 13.04% babies had low APGAR scores at birth. Fifty-five percent of babies born to mothers with AP in our study were admitted to the Neonatal Intensive Care Unit (NICU), while in PP cases, 34.78% babies were admitted to the NICU.

There was no maternal or perinatal mortality in our study.

DISCUSSION:

In our study the incidence of APH is 1.16%, which is less than the incidence of 3.8% as per the analytical study on fetomaternal outcome of antepartum hemorrhage in pregnancy by the study done by Majumder et al from Ahmedabad, Gujarat.[13]

In our study the incidence of APH was more common in multiparous women in both AP (60%) and PP (69.56%). This observation was similar to the study by Gandhi SK et al[14] where the incidence of APH was more common in multiparous and 65% in AP and 77.2% in PP were multiparous in their study. Present study shows that a multigravida is more prone to APH (65%) than a primigravida which is comparable to study of S Singhal et al[16] who also reported that incidence of APH increases in multigravida.

In present study majority of cases of antepartum hemorrhage were of unregistered emergency patients (71%). Among unregistered cases those patients who do not have regular antenatal visits will have a higher incidence of placenta previa and associated complications.

Early marriage and repeated pregnancies at short intervals maybe responsible for 60% of cases of antepartum hemorrhage in the combined age group of 21-30 years age group and 88% occurring in multigravida. Frequency of placenta previa increases with maternal age.[15]

Abnormal presentation was seen in 21.7% patients of placenta previa and 5% patients of abruptio placenta. Raksha et al[17] found fetal malpresentation to be 23% in placenta previa and 11% in abruption placenta. Anemia was found in 55.8% of patients and Pre eclampsia in 20.9% of patients which is comparable to study by S Singhal et al.[16]

In our study all PP patients and 90% of AP pateints underwent caesarean birth in contrast to the observation by Gandhi SK et al[14] where 70% patients with abruption delivered vaginally while 30% were delivered by lower segment caesarean section (LSCS).

The cumulative risks for placenta previa that accrue with the increasing number of caesarean deliveries are extraordinary. Caesarean section is necessary practically in all cases of placenta previa and higher incidence of LSCS (90%) in cases of APH is mainly to reduce maternal and fetal mortality due to hemorrhage. There was neither maternal nor perinatal mortality. This was probably due to early diagnosis and timely intervention and having a well-equipped NICU.

CONCLUSION:

Antepartum hemorrhage is a grave obstetrical emergency and is associated with high rate of maternal and perinatal morbidity and mortality. As there are no predictors for APH, when diagnosed should be actively managed. Educating the pregnant mother about the importance of antenatal care and easy accessibility to quality antenatal services would help in bringing down the maternal and perinatal morbidity and mortality related with antepartum hemorrhage.

The morbidity associated with placenta previa can be reduced by detecting the condition in the antenatal period by ultrasound, before it becomes symptomatic. Intensive family planning program and awareness of small family norm helps in decreasing cases of APH in relation with age and parity. Efforts should be made to reduce the rates of operative deliveries, because there is a greater likelihood of placenta previa in a scarred uterus.

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