



MORBIDLY ADHERENT PLACENTA : ITS MANAGEMENT, MATERNAL AND PERINATAL OUTCOME

Obstetrics & Gynaecology

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ABSTRACT

Objectives The aim was to identify the risk factors predisposing to morbidly adherent placenta and to study the different methods of management, obstetric and neonatal outcome of these patients. **Methods** This was a retrospective and prospective observational study conducted in the Department of Obstetrics and Gynaecology in Alluri Sita Rama Raju Academy of medical sciences, Eluru, Andhra Pradesh. **Results** The incidence of morbidly adherent placenta was 1.5 per 100 pregnancies with patient profile comprising 33% are second gravida ; 80 % of the patients in this study had previous Caesarean section and co-existing placenta praevia was diagnosed in 40 %. 26% of the women delivered between 35 and 38 weeks. Caesarean section was the mode of delivery in 90 % of the patients and was associated the blood loss of 1000–2000 mL in 60%. **Conclusion** Antenatal diagnosis of morbidly adherent placenta allows for multidisciplinary planning in an attempt to minimize potential maternal or neonatal morbidity and mortality.

KEYWORDS

Placenta accreta, Previous Caesarean section, Postpartum haemorrhage, Peri-partum hysterectomy

INTRODUCTION

Obstetric haemorrhage is one of the leading causes of maternal deaths in developing nations especially in India. Abnormal placentation (accreta, increta and percreta) has emerged over uterine atony as the leading indication for peripartum hysterectomy. Once a rare occurrence, morbidly adherent placenta is now becoming an increasingly common complication of pregnancy, mainly due to the increasing rate of Caesarean delivery over the past 50 years [4]. It is the most frequent indication for peripartum hysterectomy [5–7]. In addition, the incidence of perinatal complications is also increased due to preterm birth and small for gestational age fetuses [8, 9].

In this study, an attempt has been made to enumerate possible measures to identify the predictors of abnormal placentation during early pregnancy in order to ensure favourable maternal and perinatal outcome.

MATERIALS AND METHODS

This was a retrospective and prospective observational study conducted in the Department of Obstetrics and Gynaecology in Alluri Sita Rama Raju Academy of medical sciences, Eluru, Andhra Pradesh during May 2022–November 2023, 1000 deliveries in the institute are taken of which the study included all pregnant women, irrespective of parity status, with gestational age more than 26 weeks who had any type of morbidly adherent placenta diagnosed on USG colour Doppler/magnetic resonance imaging (MRI) or had been diagnosed intra-operatively with morbidly adherent placenta. All patients included had delivered in this institution.

For prospective cases, complete history and physical examination of the patient along with relevant investigations (ultrasound with colour doppler and MRI) for diagnosis of morbidly adherent placenta were documented. Hospital records were studied for the retrospective cases. The parameters studied were the mode of presentation of the patient and longevity of the gestation, history of previous lower segment/classical Caesarean section or other intrauterine operative procedure (dilatation and curettage, manual removal of placenta, myomectomy, etc.), mode of delivery of the current pregnancy, interventional end point (packing/internal iliac artery ligation/hysterectomy-classical/lower segment/peri-partum), neonatal outcome and duration of hospital stay.

Each patient was followed up to 2 months post-partum with serial monitoring of serum beta HCG levels and doppler ultrasound for placental volume.

RESULTS

During the study period, there were 1000 deliveries, of which 15 patients had morbidly adherent placenta, giving an incidence on 1.5 per 100 pregnancies. Maximum number of women (6, 40 %) in the study belonged to the age group 29–31 years and 33% (5) of women were second gravida.

20% (3) had undergone both Caesarean section and emergency curettage. In total, 80 % of the patients had undergone previous Caesarean section, of which 40 % (6) had 1 previous Caesarean, 33% (5) had 2 previous caesarean sections, 13%(2) had previous 3 Caesarean sections. Amongst the 20% (3) who did not have previous lower segment Caesarean section, one patient was a primigravida with fibroid uterus, the second was a multigravida with previous full-term normal vaginal deliveries, third was multigravida with previous abortions [curettage done]

Table 1:

Serial No.	Demographic variable		No. of patients	Percentage
1	Morbidly adherent placenta	Placenta accreta, increta, percreta	15	1.5/100 pregnancies
2	Age	23–25 years	2	13
		26–28 years	4	27
		29–31 years	6	40
		32–34 years	2	14
		35–38 years	1	6
3	Gravidity	Nulligravida	1	7
		Gravida 1	3	20
		Gravida 2	5	33
		Gravida 3	4	26
		Gravida 4 and above	2	14
4	Associated risk factors	Previous caesarean section	9	60
		Previous curettage	1	6
		Both	3	20
		Neither	2	13
		Placenta praevia	6	40
5	Type of placentation	Accreta	7	47
		Increta	5	33
		Percreta	3	20
6	Time of diagnosis	Antenatal	12	80
		Intraoperative	2	13

		Post-natal	1	7
7	Anaemia	No anaemia	5	34
		Mild anaemia (Hb 10–10.9 g%)	6	40
		Moderate anaemia (Hb 7–9.9 g%)	3	20
		Severe anaemia (Hb < 7 g%)	1	6

Co-existing placenta praevia was diagnosed in 40% (6) of the patients. Placenta accreta was found in 47% (7), placenta increta in 33% (5) and placenta percreta in 20% (3). Diagnosis of morbidly adherent placenta was made antenatally in 80% (12) patients, intra-operatively in 13% and post-natally in 7% due to post-partum haemorrhage. Diagnosis was made by ultrasound with colour doppler and confirmed with MRI. Mild anaemia (Hb 10–10.9 g/dL) at 32 weeks of gestation was found in 40% (6), moderate in 20% (3), 6% (1) had severe anaemia (Hb < 7 g/dL)

26% of the women delivered between 35 and 38 weeks. 33% (5) of the patients had no complaints, and they had planned deliveries by a multidisciplinary team (an obstetrician, a blood bank team, anaesthetist, urologist, and a neonatologist). Caesarean section was the most frequent mode of delivery (90%, 13) with classical Caesarean section (47%, 7) (in view of placenta praevia) being more frequent than lower segment Caesarean section (33%, 5). Patients who had full-term normal vaginal deliveries (13%, 2) as well as instrumental delivery (outlet forceps delivery) (6%, 1) (Table 2)

Table 2 Gestational age at delivery

Serial No.	Gestational age (weeks)	No. of patients	Percentage (%)
1.	23–26	1	6
2.	26–29	1	6
3.	29–32	3	20
4.	32–35	5	33
5.	35–38	4	26
6.	>38	1	6

The average intrapartum blood loss in patients with morbidly adherent placenta was 1500–2000 mL which was the case in 60% (9) of the patients studied. More than half of the patients (60%, 9) received 1–4 units of blood. Lower segment Caesarean section with internal iliac artery ligation and finally followed by obstetric hysterectomy was associated with a blood loss of more than 2000 mL in all patients where it was adopted. Peripartum hysterectomy alone was done in 53% (8) (Tables 3, 4)

Table 3

Serial No.	Treatment modality	No. of patients	Percentage (%)
1.	Hysterectomy with other procedure	8	53
2.	Hysterectomy without other procedure	2	13
3.	Other procedure without hysterectomy	3	20
4.	No hysterectomy and no other procedure	2 (Methotrexate-4)	13

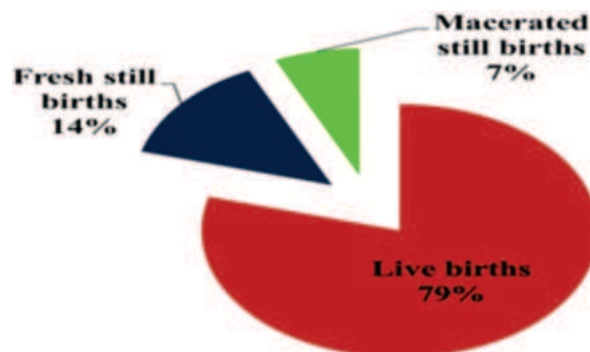
Table 4: Intrapartum blood loss

Serial No.	Blood loss (mL)	No. of patients	Percentage (%)
1.	Less than 1999	9	60
2.	2000–2999	3	20
3.	3000–3499	2	13
4.	More than 3500	1	6

The average hospital stay for a woman diagnosed with morbidly adherent placenta was 15 days. Those patients who received methotrexate and those who had surgical site infections had longer duration of hospital stay.

Seventy-nine per cent of the patients had live births, 14% had fresh stillbirths, and 7% had macerated stillbirths. Fifty per cent of the babies were preterm (<37 weeks) and the maximum number of babies (30%) had birth weight of 2300–2600 g. Twenty-seven per cent of the babies born required NICU admission for low birth weight, respiratory

distress or neonatal jaundice. The neonatal death that occurred was due to respiratory distress in a preterm baby with low birth weight who was born with APGAR score of 3/10 and 5/10 at 1 and 5 min of life, respectively



Neonatal Outcome

DISCUSSION

Morbidly adherent placenta is one of the most devastating complications in pregnancy [10]. It is characterized by the attachment of placental villi directly to the myometrium, sometimes invading deeper into the uterine wall or surrounding organs. It could be placenta accreta (chorionic villi are in contact with the myometrium), placenta increta (chorionic villi invade the myometrium) or placenta percreta (chorionic villi penetrate the uterine serosa). The bladder is the most frequently involved extrauterine organ when there is a placenta percreta. Placenta percreta that invades the urinary bladder is associated with a substantial morbidity and mortality of up to 10% [11].

In this study, as well as studies by Aggarwal et al. [12] and Obajimi et al. [13], it is evident that morbidly adherent placenta usually occurs in subsequent pregnancies, explaining the older age group and higher gravidity of the patients. The most important risk factors are previous caesarean delivery, placenta praevia, multiparity and advanced maternal age [14]. Up to 88% of the women have concomitant placenta praevia [15, 16].

A majority of morbidly adherent placentae are diagnosed during the third stage of labour or during caesarean section which results in adverse consequences including exsanguinating haemorrhage [17]. Silent abnormal placentation was found in 21.2% of peripartum hysterectomy specimens in a study by Suwannarurk et al. [18]. The high rate of antenatal diagnosis of morbidly adherent placenta in this study could be due to the fact that the study was conducted in a tertiary care hospital, where diagnostic facilities such as ultrasound with colour Doppler as well as MRI are available during both routine and emergency hours.

Regardless of the management option made, prevention of complications ideally requires a multidisciplinary team approach. Early planning of arrangements for antepartum and intrapartum management is preferable to late planning, when emergency situations are more likely to occur [19].

Given the best-available evidence, optimal time for delivery is believed to be between 34 and 35 weeks in most cases [15, 20]. The recommended management of suspected morbidly adherent placenta is planned preterm Caesarean section with the placenta left in situ because attempts at removal of the placenta are associated with significant haemorrhagic morbidity [15]. A classical uterine incision, or may be necessary to avoid the placenta, especially in cases of low lying placenta, and to allow delivery of the infant.

The reported maternal mortality for morbidly adherent placenta ranges from 7 to 10% worldwide [21]. Maternal morbidity had been reported to occur in up to 60% and mortality in up to 7% of women with morbidly adherent placenta [8, 9]. Considering this risk of substantial morbidity (including coagulopathy, severe haemorrhage, infection, sepsis, ureteral injury, need for blood transfusion/hysterectomy) and mortality, uterus-preserving treatment may have a role in carefully selected patients who desire future fertility [22]. Several adjuvant techniques have been proposed alongside surgery. These include methotrexate treatment, internal iliac artery ligation [23]. Although

the sufficient literature on the efficacy of methotrexate is still lacking, Dasari et al. [24] reported the successful treatment with methotrexate of a primiparous patient who was diagnosed in the post-partum period and had no other co-morbidities. When conservative management is successful, it results in gradual resorption of the placenta or delayed delivery of the placenta [25].

CONCLUSION

Antenatal diagnosis of morbidly adherent placenta through imaging (ultrasound colour Doppler and MRI) allows for multidisciplinary planning in an attempt to minimize maternal or neonatal morbidity and mortality. Randomized controlled trials and large cohort studies for the diagnosis and management of morbidly adherent placenta are lacking [26]. Although the gap between the developed and developing nations with regard to maternal mortality and morbidity may have narrowed, but still a lot of dedicated work is required to bridge these differences.

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