

Placenta Accreta Spectrum: Outcome of Different Individual Management Strategies in a Tertiary Care Hospital**Gujju Rajalakshmi¹, Prasad Usha², Eeshita Badiya³, Tanista Badiya⁴**¹Associate Professor, Department of Obstetrics and Gynaecology, Andhra Medical College, Visakhapatnam, Andhra Pradesh, India.²Professor, Department of Obstetrics and Gynaecology, Andhra medical College, Visakhapatnam, Andhra Pradesh, India.³Postgraduate, Department of Obstetrics and Gynaecology, Seth GS Medical College, Mumbai, Maharashtra, India.⁴Undergraduate, JIPMER, Puducherry, India.

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Abstract

Background and Objective: The increase in caesarean section rate in the last four decades has contributed to the several fold increase in the incidence of placenta accrete spectrum globally. It can lead to life threatening hemorrhage and is one of the reasons for peripartum hysterectomy and a common cause for severe maternal morbidity. The objective of this study is to diagnose cases of placenta accrete spectrum and study the outcome of different individual management strategies and how early diagnosis and appropriate management will decrease the maternal morbidity and mortality.

Methods: The study included 30 women diagnosed with placenta accreta from June 2022 to November 2022 at tertiary care centre. The study subjects were divided into two groups according to the individual management. Group A underwent casarean hysterectomy while Group B was managed medically with methotrexate.

Results: The common age group in both groups is between 30-40 years. In both the groups the patients were multi gravida. Maximum number of patients 73.3% in group A and 66.6% in group B had previous caesarean section among the study subjects. In 53.4% in Group B patients had hospital stay ranging from 11- 20 days and in 33.3% of cases more than 20 days. In Group B patients complications were seen in 86.7 % of cases and in Group A cases with 33.3% showed complications.

Conclusion: Over the past decade, with the increase in cesarean delivery, the prevalence of placenta accreta and other abnormal placentation has increased resulting in severe blood loss causing maternal morbidity and mortality. Continuous improvements in early diagnosis are markedly required to provide evidence-based strategies for treating these women.

Keywords: Placenta Accreta, Obstetrics Hemorrhage, Cesarian Hysterectomy, Maternal Mortality.

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Introduction

Placenta accreta spectrum, known as morbidly adherent placenta ranges from increta, percreta to accreta. It was first described in the 20th century and was later reported in the 1930s [1]. This was probably due to the fewer incidences of caesarean sections during those times. The increase in the caesarean section rate in the last three to four decades has contributed to the several fold increase in the incidence of placenta accreta spectrum globally. Hence placenta accreta spectrum with its subtypes increta, percreta and accreta is one of the devastating obstetric complications. It can lead to life threatening hemorrhage and one of the causes for peripartum hysterectomy and common cause for severe maternal morbidity. Placenta accreta

spectrum refers to the pathologic invasion of the placental trophoblasts to the myometrium and beyond, which was formerly known as morbidly adherent placenta with subtypes described as accreta (adheres to the myometrium), increta (invades deep to the myometrium) and percreta (the invasion reaches to the uterine serosa and beyond) [2].

The two most important risk factors are an associated placenta previa, a prior caesarean delivery, and more likely a combination of the two. The exact reason as to why the placenta gets deeply infiltrated into the myometrium is not known exactly but taking the incidence of the association of placenta accreta spectrum with uterine scar,

defective endometrium-myometrium interface is attributed as one of the cause as it is infrequently seen in the first pregnancy [3].

Other risk factors are previous uterine surgery, previous dilatation and curettage, previous history of manual removal of placenta, previous myomectomy, Asherman syndrome(endometrial defects), submucous leiomyoma, advanced maternal age, multiparity etc., [4]. For the best success of placenta accreta management a multidisciplinary team approach, antenatal diagnosis and managing such cases in a tertiary care hospital have been strongly recommended.

The incidence of morbidly adherent placenta has increased with numbers ranging from approximately 1per 333-1per 533 deliveries [5,6].

Aims and Objectives

The objective of this study is to diagnose the morbidly adherent placenta and to study the outcome of different individual management strategies and how early diagnosis and appropriate management in cases of morbidly adherent placenta will decrease the maternal morbidity and mortality.

Materials and Methods

The present interventional study included 30 women diagnosed with morbidly adherent placenta

admitted into department of obstetrics and gynecology at Government General Hospital which is a tertiary care hospital in Kakinada between June 2022 and November 2022. The study subjects were divided into two groups according to the individual management. Group A (n=15) and Group B (n=15). Group A underwent casarean hysterectomy while Group B was managed medically with methotrexate.

Inclusion Criteria

1. Patients who are diagnosed with morbidly adherent placenta by means of ultrasound, doppler, MRI.
2. Patients who gave consent for the study.

Exclusion Criteria

1. Patients with associated uterine pathology needing hysterectomy.
2. Patients who did not give consent for the study.

Statistical Analysis was done with MS excel and SPSS 20. Chi square test of significance was used. p-value <0.05 was considered statistically significant.

Results

Table 1: Distribution of study subjects based on age

Age (years)	Group A (n=15)	Group B (n=15)
20-30	6 (40%)	7 (46.6%)
30-40	9 (60%)	8 (53.3%)

The maximum number of patients which is 60% were in the age group of 30-40 years belonged to group A while 53.3% of patients who belonged to group B were also in the 30-40 years age.(Table 1)

Table 2: Distribution of study subjects based on parity

Parity	Group A (n=15)	Group B (n=15)
Primi	5 (33.3%)	6 (40%)
>=Second Gravida	10 (66.6%)	9 (60%)

66.6% of patients were gravid two or more in group A while 60% of patients were gravid two or more in group B.(Table 2)

Table 3: Distribution of study subjects based on previous caesarean section

Caesarean Section	Group A (n=15)	Group B (n=15)
Yes	11 (73.3%)	10 (66.6%)
No	4 (26.6%)	5 (33.3%)

Maximum number of patients 73.3% in group A and 66.6% in group B had previous caesarean section among the study subjects.(Table 3)

Table 4: Distribution of study subjects based on history of placenta previa

History of placenta previa	Group A (n=15)	Group B (n=15)
Yes	7 (46.6%)	9 (60%)
No	8 (53.3%)	6 (40%)

60% of patients who belonged to group B had history of placenta previa while 53.3% of patients who belonged to group A did not have any history of placenta previa (Table 4)

Table 5: Distribution of study subjects based on receiving blood transfusion

Blood Transfusion	Group A (n=15)	Group B (n=15)	p-value
Yes	6 (40%)	12 (80%)	0.025
No	9 (60%)	3 (20%)	
Total	15 (100%)	15 (100%)	

80% of patients who belonged to group B and 40% in group A received blood transfusion while 60% of patients in group A did not receive any blood transfusion (Table 5)

Table 6: Distribution of study subjects based on duration of hospital stay

Duration of hospital stay	Group A (n=15)	Group B (n=15)	p-value
<=10 Days	8(50.3%)	2(13.3%)	0.04
11-20 Days	4(20.7%)	8(53.4%)	
>20 Days	3(20%)	5(33.3%)	
Total	15(100%)	15(100%)	

The duration of hospital stay in Group A subjects was less than 10 days in 50% of cases and in group B patients 13.3%. In 53.4% in Group B patients had hospital stay ranging from 11- 20 days and in 33.3% of cases more than 20 days. (Table 6)

In Group B patients complications were seen in 86.7 % of cases and in Group A cases with 33.3% showed complications. (Table 7)

Table 7: Distribution of study subjects based on complications

Complications	Group A(n=15)	Group B (n=15)	p-value
Yes	5(33.3%)	13(86.7%)	0.002
No	10(66.7%)	2(13.3%)	
Total	15(100%)	15(100%)	

Discussion

Abnormal insertion of placenta; such as placenta accreta, increta, and percreta are frequent causes of post-partum hemorrhage. They result in maternal morbidity and mortality. The risk factors for abnormal insertion of placenta is cesarean section placenta previa and preeclampsia. Early detection with reliable antenatal diagnosis and planned surgical approach is very much necessary to reduce the prevalence of maternal morbidity and mortality from massive hemorrhage.

Studies from literature have documented that the risk of placenta accreta increases as the number of cesarean sections increase. It was found that placenta accrete occurs in 0.24% of the population at the first caesarean, 0.31% at the second, 0.57% at the third, 2.13% at the fourth, 2.33% at the fifth, and 6.74% in the sixth caesarean section.

Dutta S, Dey B, Chanu et al [7] observed placenta accreta was common in the age group from 22 to 38 years of age with mean age of 30.7 years. Multiparity was seen in 80% of cases. The commonest risk factor was placenta previa in 50% of cases followed by previous lower segment cesarean section (40%) and pre eclampsia in 10% of cases.

Heena AB et al [8] analysed 18 emergency hysterectomy specimens during eight-year period of which placenta accreta accounted for 55.5 percent of cases. Multi parity was seen in 77.7% of cases. Common risk factors observed was previous

caesarean section in 55.5 percent, placenta previa in 33.3 percent and pre-eclampsia in 11.1 percent of cases.

Birendra et al [9] analysed 32 women with abnormal placentation. His observations were: The mean maternal age was 31 years. Fifty percent had history of placenta praevia, 75% had a history of previous caesarean sections. Hysterectomy was done in (87.5%) of cases. Blood transfusion was given in all the cases. There were two maternal deaths in the study group with better perinatal outcome.

In the present study the commonest age group was 30-40 years. Multiparity was seen in 66.6% of patients. Maximum number of patients 73.3% in group A and 66.6% in group B had previous caesarean section among the study subjects. 60% of patients who belonged to group B had history of placenta previa while 53.3% of patients who belonged to group A did not have any history of placenta previa.

In the present study, eighty percent of patients who belonged to group B and 40% in group A received blood transfusion while 60% of patients in group A did not receive any blood transfusion. The duration of hospital stay in Group A subjects was less than 10 days in 50% of cases and in group B patients 13.3%. In 53.4% in Group B patients had hospital stay ranging from 11- 20 days and in 33.3% of cases more than 20 days. In Group B patients complications were seen in 86.7 % of cases and in Group A cases with 33.3% showed complications.

Conservative management with methotrexate has beneficial effects especially in preserving future fertility. Infection and vaginal bleeding were main complications with methotrxate therapy. There is not enough evidence on its efficacy and safety to recommend its routine uses in all cases of invasive placenta[10].

Conclusion

Morbidly adherent placenta management strategies should be individualized. Early diagnosis and appropriate management of cases will reduce maternal morbidity and mortality. The successful management of placenta accreta includes a multidisciplinary care team approach with the successful management relying heavily on the prenatal diagnosis of this entity and preparing for the surgical management in a multidisciplinary approach.

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