

# Placenta Accreta Spectrum – Case Series At Tertiary Care Hospital

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## Abstract:

**Introduction** Placenta accreta - an abnormal trophoblast invasion of a part or total placenta into the myometrium of the uterine wall [1]. Placenta accreta spectrum, formerly known as morbidly adherent placenta, refers to the range of pathologic adherence of the placenta, including placenta accreta, increta and percreta. Maternal morbidity and mortality can occur because of severe and sometimes life-threatening hemorrhage.

**Materials and methodology:** Prospective observational study conducted at obstetrics department of NRI General and Super speciality, Chinakakani, Guntur, Andhra Pradesh. Study was done after taking permission from institutional ethics committee and consent from patients. All the patients were referred from outside hospital after diagnosing placenta previa on Ultrasound. All patients were subjected to MRI pelvis identify invasion and its extent. After assessing general condition, fetal well being and routine laboratory investigations, keeping blood and blood products ready, mode of termination planned. Intra and postoperative complications were noted.

**Results :** out of 7 cases, 2 were second gravida, 2 were third gravida, 3 were Multi gravida. Mean age of presentations was  $29 \pm 5$ , mean gestational age at presentation was  $34^{+4} \pm 5$  weeks. 4(57.2%) underwent elective and 3(42.8%) underwent emergency procedures. Out of 7, 6(85.7%) had cesarean hysterectomy. 3(42.8%) had bladder injury and repair. Maximum and minimum ICU stay were 2 and 1 respectively. Maximum and minimum hospital stay were 16 and 8 respectively. Massive transfusion required for 2 patients. Maximum blood products transfused 29 to 1 patient.

**Conclusion:** Placenta accreta spectrum is associated with high morbidity and mortality of mother. Diagnosing antenatally and managing with elective procedure reduces morbidity and mortality.

**Key words:** placenta previa, placenta accreta spectrum, LSCS, cesarean hysterectomy, bladder injury.

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## I. Introduction

Placenta accreta - an abnormal trophoblast invasion of a part or total placenta into the myometrium of the uterine wall [1]. Placenta accreta spectrum, formerly known as morbidly adherent placenta, refers to the range of pathologic adherence of the placenta, including placenta accreta, increta and percreta. Severe haemorrhage is the main cause for morbidity and mortality associated with placenta accreta spectrum. In 2015, the American College of Obstetricians and Gynecologists (ACOG) and the Society for Maternal-Fetal Medicine developed a standardized risk-appropriate maternal idealized care system for facilities, based on region and expertise of the medical staff, to reduce overall maternal morbidity and mortality in the United States. [2] There are several risk factors for placenta accreta spectrum. The most common is cesarean delivery, with the incidence of placenta accreta spectrum increasing with the number of prior cesarean deliveries. Additional risk factors include advanced maternal age, multiparity, prior uterine surgeries or curettage, and Asherman syndrome. The most favored hypothesis regarding the etiology of placenta accreta spectrum is that a defect of the endometrial-myometrial interface leads to a failure of normal decidualization in the area of a uterine scar, which allows abnormally deep placental anchoring villi and trophoblast infiltration.

## II. Case series:

**Case 1:** A 28 years G<sub>2</sub>P<sub>1</sub>L<sub>1</sub> with previous LSCS, diagnosed with complete placenta previa with percreta at 22 weeks in USG following 1 episode of haematuria. MRI pelvis shown-placenta previa with percreta with bladder serosa infiltration. Patient was admitted at 36 weeks. Elective LSCS at 36<sup>+6</sup> weeks done with blood in reserve. Intraoperative finding-bladder was adherent to uterus. During separation bladder injury happened. Repair by urologist done. 4 PRBC, 2 WHOLE BLOOD, 4 RDP and 8 FFP's transfused Intra-operatively. Post op -2 PRBC, 4 RDP and 5SDP's transfused. Patient was in ICU for 2 days. Patient was discharged on POD-6 with Suprapubic catheter in situ.

**Case 2:** A 30 year G<sub>3</sub>P<sub>1</sub>L<sub>1</sub>A<sub>1</sub> prev LSCS diagnosed with complete placenta previa with increta at 26 weeks. Presented with bleeding per vaginum at 33 weeks. Taken for emergency LSCS .After baby delivery proceeded for cesarean hysterectomy with placenta left in situ. 2 PRBC transfusion done. Discharged on POD 8.

**Case 3:** A 26 year G<sub>4</sub>P<sub>2</sub>L<sub>1</sub>D<sub>1</sub>A<sub>1</sub> with 2 prev LSCS , diagnosed with complete placenta previa at 30 weeks .MRI – complete placenta previa with no invasion. Elcective LSCS done at 37+6 weeks. Intraop- bleeding from placental bed at lower segment noted. After uterine artery ligation proceeded for hysterectomy. Intraop – 2 PRBC transfusion done. Discharged on POD -10. Histopathology – invasion up to myometrium present.

**Case 4:** A 28 year G<sub>2</sub>P<sub>1</sub>L<sub>1</sub> with prev LSCS diagnosed with complete placenta previa at 22 weeks. MRI – complete placenta previa with accreta present. Elective LSCS done at 37+5 weeks. Intraop – placenta left in situ and after lighting uterine arteries , hysterectomy done. 1 PRBC transfusion done Intraop and 1 postop. Discharged on POD 9.

**Case 5:** A 32 year G<sub>5</sub>P<sub>1</sub>L<sub>1</sub>A<sub>3</sub> with prev LSCS diagnosed with complete placenta previa at 28 weeks. MRI – complete placenta previa with percreta noted. Emergency LSCS at 34+5 weeks done. Intraop- placenta invasion up to serosa with intact bladder wall. After baby delivery, uterine artery ligation done ,proceeded for hysterectomy. 2 PRBC Intraop, 1 PRBC postop transfused. Discharged on POD-9.

**Case 6:** A 33 year G<sub>4</sub>P<sub>3</sub>L<sub>3</sub> with DCDA prev LSCS post tubectomized, conceived after IVF , diagnosed at 22weeks with complete placenta previa with increta and extension to left recuts muscle. Emergency hysterectomy at 26 weeks done I/V/O bleeding per vaginum. Intraop –bladder invasion noted and while seperating bladder injury occurred. Bladder repair done by urologist. 5 PRBC transfused Intraop and one post OP. 3FFP given. ICU care given for 2days. Discharged on POD 14 with suprapubic catheter in situ.

**Case 7 :** A 26 year old G<sub>2</sub>P<sub>1</sub>L<sub>1</sub> with prev LSCS, diagnosed with 20<sup>+5</sup> weeks , diagnosed with placenta previa on USG. MRI shown placenta previa with accreta. Admitted at 36 weeks and Elective LSCS done at 37 weeks. Bladder was densely adherent to lower uterine segment and opened while seperating bladder. Bladder repair was done by urologist by keeping supra pubic catheter (SPC) in situ. Patient required 6 PRBC's, 4 FFP's and 4 RDP's and was in ICU for 1 day. supra pubic catheter removed on POD-14 and patient got discharged on POD-16.

## III. Materials and methodology

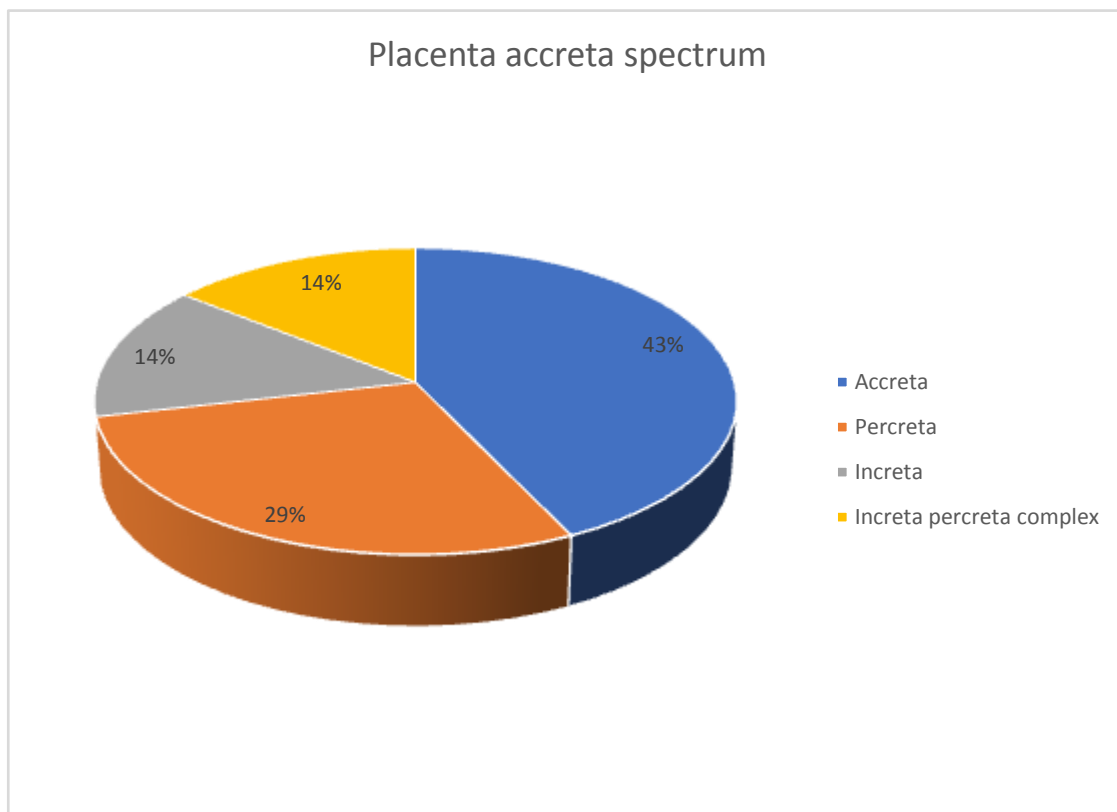
Prospective observational study was conducted at obstetrics department of NRI General and Super speciality , Chinakakani, Guntur, Andhra Pradesh. Study was done after taking permission from institutional ethics committee and consent from patients. All the patients were referred from outside hospital after diagnosing placental previa on Ultrasound. All patients were subjected to MRI pelvis to identify invasion and its extent. After assessing general condition, fetal well being and routine laboratory investigations , keeping blood and blood products ready , mode of termination was planned. Intra and postoperative complications were noted. Prior to procedure cases were informed to urologist, paediatrician, ICU incharge, blood bank incharge and pre anaesthetic check up was performed.

**IV. Results:**

In our study , mean age of presentation was  $29^{+5} \pm 5$  years. 2 were second gravida, 2 were third gravida, 3 were Multi gravida. Mean gestational age at presentation was  $34^{+4} \pm 5$  weeks. 4(57.2%) underwent elective and 3(42.8%) underwent emergency procedures. Out of 7, 6(85.7%) had cesarean hysterectomy. 3(42.8%) had bladder injury and repair. Maximum and minimum ICU stay were 2 and 1 respectively. Maximum and minimum hospital stay were 16 and 8 respectively. Massive transfusion required for 2 patients. Maximum blood products transfused 29 to 1 patient. 2(33%) were preterm deliveries.

Prev LSCS	100%
Preterm	3(42.8%)
Massive blood transfusion	2(28.5%)
Bladder injury	3(42.8%)
ICU care	2 (28.5%)
Elective	4(57.2%)
Emergency	3(42.8%)

Out of 7 cases, 3 (42.8%) were placenta accreta, 2 (28.5%) were percreta, 1(14.25%) was increta and 1(14.25%) was increta percreta complex.



**V. Discussion**

Incidence of Placenta accreta spectrum is 3% in women diagnosed with placenta previa and no prior cesarean deliveries. In the setting of a placenta previa and one or more previous cesarean deliveries, the risk of placenta accreta spectrum is dramatically increased. For women with placenta previa, the risk of placenta accreta is 3%, 11%, 40%, 61%, and 67%, for the first, second, third, fourth, and fifth or more cesarean, respectively [3].

In our study incidence of placenta accreta spectrum in patients with previous one LSCS was 100%. No cases had more than one LSCS. History of more than one abortions were present.

Ultrasonographic association of placenta previa with placenta accreta spectrum in the second and third trimesters is the important feature, which is present in more than 80% of accretas in study conducted by DodosonM,et al. [4] In our study 100% cases were associated with placenta previa.

Study by Bhide AG, et al. been proposed, suggesting planned elective delivery ranging from 34–38 weeks, further demonstrating that there is still insufficient evidence to recommend one gestational age over another. [5] In our study 57.2% were electively terminated and 42.8% underwent emergency termination.

According to ACOG Waiting beyond 36 0/7 weeks of gestation is not advised because approximately one half of women with placenta accreta spectrum beyond 36 weeks require emergent delivery for hemorrhage. Use of antenatal corticosteroids for lung maturation is appropriate in women with antenatally diagnosed accreta and anticipated delivery before 37 0/7 weeks of gestation and is consistent with current gestational age-based recommendations. In our study mean age for termination was  $34^{+4} \pm 5$  weeks.

In study conducted by Martin JN, et al. ,76% for bladder lacerations were reported. In our study bladder injury rate was 42.8%. [6]

In our study maximum blood products required are 29 for 1 patient and 2 required massive blood transfusion. Maximum days of hospital stay was 16 days.

Placenta accreta spectrum is considered a high-risk condition with serious associated morbidities. Therefore, ACOG and the Society for Maternal–Fetal Medicine recommend these patients receive level III (subspecialty) or higher care. This level includes continuously available medical staff with appropriate training and experience in managing complex maternal and obstetric complications.

Consistent access to interdisciplinary staff with expertise in critical care (ie, critical care subspecialists, hematologists, cardiologists, and neonatologists) should be available.

## **VI. Conclusion:**

Placenta accreta spectrum is associated with high morbidity and mortality of mother. Diagnosing antenatally and managing with elective procedure reduces morbidity and mortality.

The general resources needed to be able to attain improved health outcomes in the setting of a known or suspected placenta accreta include Planning for delivery with appropriate subspecialists and Having access to a blood bank with protocols in place for massive transfusion.

In our hospital , as level III care is available, with blood bank -no mortality recorded.

As super speciality care available and elective management for most cases given, bladder injuries are effectively managed without significant morbidity.

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