

# An observational study on abnormal placentation in women with 2 or more previous cesarean sections in a tertiary care centre

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## ABSTRACT

**Background:** The incidence of placenta praevia is 1 in 200 pregnancies. Incidence increases with each successive cesarean delivery. Placenta previa is the main reason for postpartum hemorrhage. With abnormal placentation emergency hysterectomy might also be needed. Women in this area are at more risk due to various religious taboos that does not allow limitation of family size. **Objectives:** To assess abnormal placentation in women with 2 or more previous LSCS in a tertiary care centre and also to see the outcome in terms of occurrence of post partum haemorrhage and its management. **Materials and methods:** It is a prospective observational study conducted in our institute, during the period of January 2019 to December 2019. A detailed proforma designed with cases fulfilling inclusion and exclusion criteria were enrolled and results obtained by applying proper statistical analysis. **Results:** Total 54 patients were enrolled out of which 50 were with previous 2 LSCS and 4 with previous 3 LSCS. 14.8% cases had placenta previa with 87.5% patients with placenta previa having adherent placenta. Women with previous 2 LSCS had 12% placenta previa whereas with previous 3 LSCS had 50%. Occurrence of placenta previa was statistically significant with increase in number of cesareans. Post partum haemorrhage occurred in 14.8% cases with 5.5% who underwent obstetric hysterectomy. **Conclusion:** The rate of placenta previa increases with increase in cesarean section rates. Early diagnosis, close monitoring and timely interventions play an important role in its management. Primary prevention will include justified cesarean section and promotion of normal deliveries to reduce its incidence with promotion of VBAC.

**Keywords:** Placenta previa, adherent placenta, cesarean sections, hysterectomy.

Anemia so far has been the leading cause of maternal mortality and morbidity following which haemorrhage, be it antepartum or postpartum is an important factor that leads to maternal mortality and morbidity. It is seen that haemorrhage is directly proportional to the operative interventions like cesarean section. By emphasizing that maternal health is important and with the increase in the rate of repeat cesarean sections worldwide the rate of maternal mortality and morbidity is also increasing.

The term hemochorial is used to describe human placentation. It is derived from hemo referring to maternal blood, and chorio for chorion (placenta). In majority of the

cases placenta is attached in the upper segment. Placenta which is situated wholly or partially at the lower uterine segment at or after 28 weeks of gestation is referred to as placenta previa.<sup>1</sup> One of the most common cause of antepartum haemorrhage belongs to placenta previa.<sup>2</sup> The incidence overall for placenta praevia at term is 1 in 200 pregnancies<sup>3</sup>. After a caesarean section the risk of developing placenta previa is reported to be between 1.5 and 6 times higher than after a vaginal delivery.<sup>4</sup>

Incidence increases with each successive cesarean delivery being 0.3% without any cesarean while it is 0.7%, 1.8%, 4%, 10% with previous 2, 3, 4, 5 cesarean respectively

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(2.5 times rise in each time) <sup>5</sup>. Placenta previa is the most common reason for postpartum hemorrhage, even though it does not always lead to severe postpartum hemorrhage. <sup>6-8</sup> When it is combined with abnormal implantation of placenta in the uterine wall, placenta previa may lead to severe postpartum hemorrhage, requiring emergency hysterectomy. <sup>7,8</sup> Hence, to reduce the mortality in pregnant women severe postpartum hemorrhage is to be managed properly in cases of placenta previa. The focus of this study is to check for abnormal placentation like placenta previa, and morbid adherence accreta, increta or percreta and its outcome in cases of two or more previous lower segment caesarian section (LSCS).

**Methodology**

It is a prospective observational study conducted in Teerthanker Mahaveer Medical College, Moradabad over a period of 1 year from January 2019 to December 2019. The study was conducted after ethical clearance, has a sample size of 54 patients fulfilling the inclusion and exclusion criteria.

**Inclusion criteria:** All antenatal cases getting admitted with previous 2 or more LSCS beyond 28 weeks of gestation.

**Exclusion criteria:** Women with history of any other uterine surgeries.

A proforma was designed which included detailed history regarding age, parity, gestational age, indication of previous cesarean section, course and complication in previous pregnancies, course of present pregnancy. General physical and obstetric examination was done along with assessment of placentation and adherence by means of USG and Doppler. Intraoperatively the outcome was noted in terms of post partum haemorrhage and its management.

All data collected was compiled simultaneously and updated in microsoft excel for evaluation. Frequencies and proportions were used to represent categorical data. Categorical data were compared using Chi square test. P value < 0.05 was considered statistically significant.

**Results**

In our study total of 54 patients were enrolled out of which majority were in the age group of 25-30 years (61.1%) followed by 31-37 years (29.6%) and then 23-24 years (9.25%). In the younger age group of 23-24 yrs majority were 3<sup>rd</sup> gravida, in the age group of 25-30 years majority were 4<sup>th</sup> gravida and in the age group of 31-37years 4<sup>th</sup> and 5<sup>th</sup> gravida were in equal number.

**Table 1: Distribution of cases according to gestational age at termination**

Gestational age	Number	Percentage
32-34 weeks	13	24%
35-36.6 weeks	22	40.7%
37-40 weeks	19	35.18%

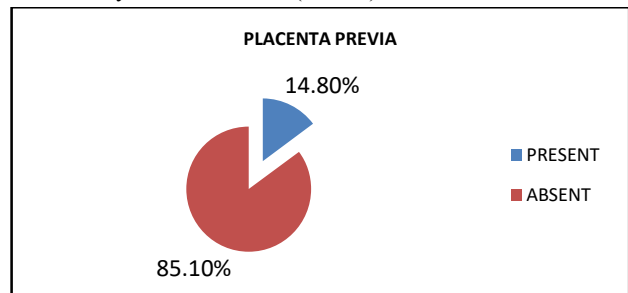
Majority of the women presented in between gestational age of 35-36.6 (40.7%) weeks followed by women with gestational age of 37-40 weeks (35.18%) and then with women with gestational age of 32-34weeks (24%). Majority of the cases (65%) were referred from outside and were taken up for surgery in emergency (table 1).

**Table 2: Distribution of subjects according to indication of 1<sup>st</sup> LSCS**

Categories	Frequency	Percentage
APH	5	9.25
Breech	4	7.4
CPD	15	27.7
Failed induction	1	1.8
Fetal distress	7	12.9
IUGR with doppler changes	1	1.8
MSL	4	7.4
NPOL	12	22.2
PIH with poor Bishop's score	2	3.7
Precious pregnancy	1	1.8
PROM with MSL	2	3.7
Total	54	100.0

LSCS – Lower segment caesarian section, APH – Antepartum haemorrhage, CPD – Cephalopelvic disproportion, IUGR – Intrauterine growth restriction, MSL – Meconium stain liquor, NPOL – Non progress of labor, PIH – Pregnancy induced hypertension, PROM – Premature rupture of membrane.

In our study among 54 patients 50 patients were with history of previous 2 LSCS (92.5%) whereas 4 patients had previous 3 LSCS (5.5%). It was seen that most common reason for 1<sup>st</sup> cesarean was cephalopelvic disproportion followed by arrest of labour (table 2).



**Figure 1: Distribution of cases according to presence of placenta previa**

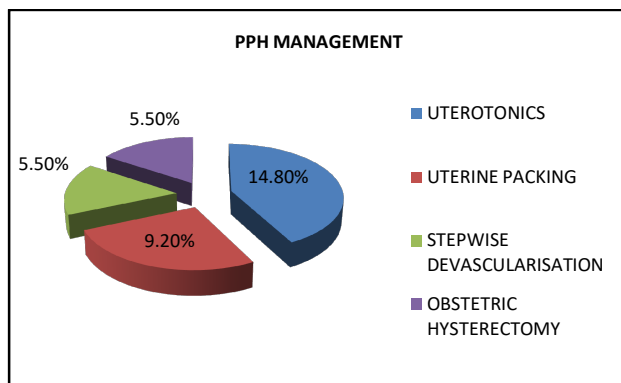
It was observed that out of 54 women a total of 8 (14.8%) had placenta previa and 46(85.1%) had upper segment placentation (figure 1). In our study it was observed that among the 8 patients with placenta previa 7 (87.5%) patients had adherent placenta. In women with previous 2 LSCS 12% had placenta previa whereas in women with previous 3 LSCS 50% had placenta previa with p value of 0.039 and that is found to be significant (table 3).

All the patients with placenta previa (14.8%) in the study had post partum haemorrhage intraoperatively. It was managed by means of uterotonics in 14.8%, uterine packing in 9.2%, stepwise devascularisation was done in 5.5% of the cases but bleeding was not controlled which finally resulted in obstetric hysterectomy in 5.5% of patients (figure 2).

**Table 3: Relation of placenta previa with respect to number of previous LSCS**

Categories	Placenta previa		Total
	Present	Absent	
Previous 2 LSCS	6(12%)	44(88%)	50(100%)
Previous 3 LSCS	2(50%)	2(50%)	4(100%)

P value 0.039 – Significant



**Figure 2: Distribution of cases according to PPH management**

**Discussion**

Maternal life goes through the process of child bearing, and despite it being a happy event puts the mother into crisis and lot of stress. In our study majority of the patients were in the age group of 25-30 years (61.1%) similar to studies by Syeda Uzma et al with patients in the age group of 26-30 years in maximum number.<sup>9</sup>

In our study patients with gestational age of 35-36.6 weeks were in majority. This could be because most ours being a tertiary care centre majority of the cases were referred from adjacent areas and taken up for cesarean on emergency basis, whereas a study by Majeed T et al showed majority of women being in gestational age group of 36-40 weeks.<sup>10</sup>

The percentage of placenta previa observed in our study was 14.8% which was similar to other studies like Singh P et al<sup>11</sup> where incidence of placenta previa was as high as 19.1% whereas few studies like in a study by Chawla J et al<sup>12</sup>, Poonia S et al<sup>13</sup> and Nazaneen S et al<sup>14</sup>, it was 8.9%, 8.3% and 4.3% respectively. The lower incidence of placenta previa seen in these studies could be because of more cases with previous 1 LSCS.

In our study 12.9% had adherent placenta compared to study by Cook et al<sup>12</sup> with 21.4% cases of adherent placenta, study by Nazaneen S et al<sup>14</sup> had 2.43% cases of adherent placenta and Singh P et al<sup>11</sup> had 5.3% cases of morbidly adherent placenta.

In our study it was observed that the placenta previa was more common with previous 3 LSCS being 50% followed by women with previous 2 LSCS with 12% having placenta previa. Similar findings were observed in studies by Uzma et al<sup>9</sup> with incidence of placenta previa being more with previous 3 LSCS that is 55.5% than with previous 2 LSCS (24.3%). Similary Z Parvin et al<sup>4</sup> also found that placenta previa was more with previous 3 LSCS (20%) than in women with previous 2 LSCS (11.4%).

Post partum haemorrhage (PPH) was observed in 14.8% of the cases in our study with 5.5% of the women who underwent obstetric hysterectomy. Studies by Uzma et al<sup>9</sup> showed a PPH rate of 55% with 12% women who underwent hysterectomy and a study by Chawla J et al<sup>12</sup> showed a PPH rate of 30.3% with 0.27% with obstetric hysterectomy. There were no cases of mortality seen in our study.

Limitations: This research has certain drawbacks as it is limited to a particular geographic area. It is a time bound study with duration of only 1 year and is not multicentric which cannot be applied to the entire population. Also ours is a tertiary care centre and it receives many cases that are being referred from adjacent areas.

**Conclusion**

Placenta previa being one of the most dreaded cause of maternal mortality and morbidity is associated with the increase in the rate of previous cesarean section rates with increase in the rate of obstetric hysterectomy as well. In our study statistical correlation was proven that with increase number of cesarean section the incidence of placenta previa also increases. Early diagnosis, close monitoring and timely interventions play an important role in its management. Reduction in primary cesarean sections and promoting vaginal deliveries should also be emphasized to reduce the incidence of placenta previa. If a patient has to undergo c-section regular antenatal checkup and identification of high risks groups should be done for proper management.

**Conflict of interest:** None. **Disclaimer:** Nil.

## References

1. Cunningham FG. Williams Obstetrics. 25th ed. New York: McGraw-Hill education; 2018. p.773.
2. Fan D, Wu S, Liu L, Xia Q, Wang W, Guo X, et al. Prevalence of antepartum hemorrhage in women with placenta previa: a systematic review and meta-analysis. *Sci. Rep.* 2017; 7: 40320.
3. Jauniaux ER, Alfirevic Z, Bhide AG, Belfort MA, Burton GJ, Collins SL, et al. Placenta praevia and placenta accreta: diagnosis and management: green top guideline No. 27a. *BJOG: An International Journal of Obstetrics & Gynaecology.* 2019 Jan; 126(1): e1-48.
4. Parvin Z, Das S, Naher L, Sarkar SK, Fatema K. Relation of Placenta Praevia with Previous Lower Segment Caesarean Section (LUCS) in our Clinical Practice. *Faridpur Med Coll J.* 2017; 12(2):75-7.
5. Sharma JB. Textbook of obstetrics. 2<sup>nd</sup> ed. Delhi: Avichal publishing company; 2020. p. 424
6. Lee HJ, Lee YJ, Ahn EH, Kim HC, Jung SH, Chang SW, et al. Risk factors for massive postpartum bleeding in pregnancies in which incomplete placenta previa are located on the posterior uterine wall. *Obstet Gynecol Sci.* 2017; 60: 520-6.
7. Silver RM. Abnormal Placentation: Placenta Previa, Vasa Previa, and Placenta Accreta. *Obstet Gynecol.* 2015; 126: 654-68.
8. Chen C, Liu X, Chen D, Huang S, Yan X, Liu Y, Chang Q, et al. Severe postpartum hemorrhage in placenta previa patients. *Ann Palliat Med.* 2019; 8(5): 611-21.
9. Uzma S, Kiani BA, Khan FS. Frequency of Placenta Praevia with Previous Caesarean Section. *Ann Pak Inst Med Sci.* 2015; 11(4): 202-5.
10. Majeed T, Waheed F, Mahmood Z, Saba K, Mahmood H, Bukhari MH. Frequency of placenta previa in previously scarred and non scarred uterus. *Pak J Med Sci.* 2015; 31(2): 360-3.
11. Singh P, Agarwal R, Yadav S. An analytical study of intraoperative, immediate post-operative and perinatal complications in previous two caesarean section. *Int J Reprod Contracept Obstet Gynecol.* 2018; 7: 4239-42.
12. Chawla J, Arora CD, Paul M, Ajmani SN. Emergency obstetric hysterectomy: A retrospective study from a teaching hospital in North India over eight years. *Oman medical journal.* 2015 May; 30(3):181.
13. Poonia S, Satia MN, Bang N. Study of placentation and maternal and fetal outcomes in cases of 2 or more caesarean sections. *Int J Reprod Contracept Obstet Gynecol.* 2016; 5: 2402-6.
14. Nazaneen S, Kumari A, Malhotra J, Rahman Z, Pankaj S, Alam A. Study of Intraoperative Complications Associated With Repeat Cesarean Sections At A Tertiary Care Hospital in Eastern India. *IOSR Journal of Dental and Medical Sciences.* 2017 Aug; 16(8): 77-82.

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