

Assessment of cases of placenta accreta, placenta increta and placenta percreta in peripartum hysterectomy specimen

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ABSTRACT:

Background: Abnormal placentation can be classified into three distinct entities such as placenta accreta, increta, and percreta. The present study was conducted to assess cases of placenta accreta, placenta increta and placenta percreta in peripartum hysterectomy.

Materials & Methods: 136 peripartum hysterectomy specimen after staining the slide with haemotoxylin and eosin stain, microscopic examination of section was done.

Results: Abnormal placentation was placenta accrete in 71, placenta increta in 45 and placenta percreta in 20 cases. The risk factors was previous LSCS in 84, placenta previa in 40 and pre-eclampsia in 12 cases. The difference was significant ($P < 0.05$). In 50 cases parity was uniparous and in 86 cases multiparous. The difference was significant ($P < 0.05$).

Conclusion: Abnormal placentation was placenta accrete seen in maximum cases and it is associated with multiparous parity.

Key words: Placenta Accreta, increta, Multiparous

INTRODUCTION

Abnormal placentation can be classified into three distinct entities such as placenta accreta, increta, and percreta. In placenta accreta, the placental villi firmly adhere to the myometrium without an intervening decidual layer and in placenta increta, the trophoblastic layer extends deeply into the myometrium.¹ In placenta percreta, the villi penetrate through the myometrium reaching up to the uterine serosa, and may involve the adjacent structures. All of these are important causes of post-partum morbidity and mortality. Nowadays the incidence of abnormal placentation is increasing due to many factors like older maternal age at the time of delivery and proportionally more deliveries by cesarean sections.²

Invasive placentation (placenta accreta, increta, and percreta) is a serious and increasingly frequent complication of pregnancy, characterized by an excessive penetration of the placenta into or through the myometrium.³ In some rare instances, the placenta could invade beyond the abdominal viscera and reach to the anterior abdominal wall. The major risk factor is placenta previa with a previous cesarean section delivery. Among women with placenta previa, the incidence of placenta accrete is nearly 10%, which rises to 40% in women who

have an anterior (or central) previa and previous cesarean deliveries.⁴ Placenta accreta is considered a severe pregnancy complication that may be associated with massive and potentially life-threatening intrapartum and postpartum hemorrhage. Life-threatening bleeding is the most common complication to be associated with this condition; the average blood loss at time of delivery is reported to be 3000-5500 mL, which leads to significant postoperative morbidity and death.⁵ The present study was conducted to assess cases of placenta accreta, placenta increta and placenta percreta in peripartum hysterectomy.

MATERIALS & METHODS

The present study comprised of 136 peripartum hysterectomy specimens.

Specimen types include peripartum uterus with cervix along with placenta in-situ. fragmented pieces of placenta after attempted removal. Bread loaf sections of posterior uterine wall to assess myometrial invasion in case of placenta increta and placenta percreta was done. These findings were confirmed on histopathological examination. After staining the slide with haemotoxylin and eosin stain, microscopic examination of section was done if there is lack of decidua between placental villi and myometrium; it indicates placenta accreta. Assessment of myometrial invasion by trophoblast was done in case of placenta increta and percreta. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS

Table I Abnormal placentation

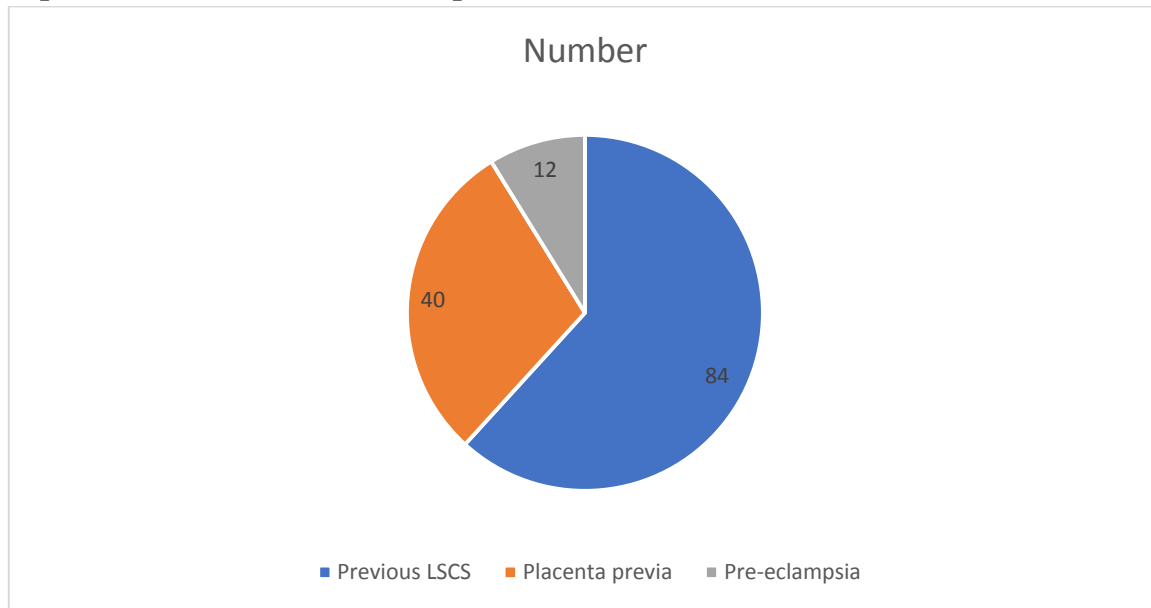
Abnormal placentation	Number	P value
Placenta accrete	71	0.01
Placenta increta	45	
Placenta percreta	20	

Table I shows that abnormal placentation was placenta accrete in 71, placenta increta in 45 and placenta percreta in 20 cases. The difference was significant ($P < 0.05$).

Table II Risk factors of abnormal placentation

Risk factors	Number	P value
Previous LSCS	84	0.01
Placenta previa	40	
Pre-eclampsia	12	

Table II, graph I shows that risk factors was previous LSCS in 84, placenta previa in 40 and pre-eclampsia in 12 cases. The difference was significant ($P < 0.05$).

Graph I Risk factors of abnormal placentation**Table III Parity and abnormal placentation**

Parity	Number	P value
Uniparous	50	0.01
Multiparous	86	

Table III shows that in 50 cases parity was uniparous and in 86 cases multiparous. The difference was significant ($P < 0.05$).

DISCUSSION

The incidence of abnormal placentation is increasing due to many factors like older maternal age at the time of delivery and proportionally more deliveries by cesarean sections.⁶ Abnormal placentation also leads to late complications of pregnancy like pre-eclampsia, preterm labor, and postpartum hemorrhage. The etiology of abnormal placentation is unknown; however, improper trophoblastic invasion and restricted endovascular invasion may be the pathological cause.⁷ Abnormal placentation can be diagnosed accurately by microscopic examination assessing the degree of adhesion or invasion of the placental trophoblast layer into the myometrium. In placenta accreta, there is the absence of Nitabuch's layer or spongiosus layer of the decidua.⁸ Microscopically, the trophoblastic tissue invades the myometrium without intervening decidua. This firm adherence of trophoblastic tissue to uterine myometrium leads to massive bleeding after delivery and the need for an emergency peripartum hysterectomy to prevent maternal mortality.⁹ The present study was conducted to assess cases of placenta accreta, placenta increta and placenta percreta in peripartum hysterectomy.

In present study, abnormal placentation was placenta accrete in 71, placenta increta in 45 and placenta percreta in 20 cases. We found that risk factors was previous LSCS in 84, placenta previa in 40 and pre-eclampsia in 12 cases. Dutta et al¹⁰ recorded the incidence of abnormal placentation and the association of various risk factors with abnormal placentation. They

received a total of 10 emergency hysterectomy specimens during an eight-year period. Of the cases, placenta accreta accounted for 40% (4/10), increta up to 40% (4/10), and percreta 20% (2/10). Analysis of these findings with parity showed 20% of the women were uniparous (2/10), and 80% were multiparous (8/10). Risk factor analysis showed previous cesarean sections in 40% (4/10), placenta previa in 50% (5/10), and pre-eclampsia in 10% (1/10).

We found that in 50 cases parity was uniparous and in 86 cases multiparous. Heena et al¹¹ recorded the incidence of abnormal placentation in emergency peripartum hysterectomy specimen and to evaluate various risk factors associated with abnormal placentation. They received total of 18 emergency hysterectomy specimens during eight-year period of which placenta accreta accounts 55.5 percent (10/18), placenta increta upto 38.8 percent (7/18) and placenta percreta 5.5 percent (1/18). Analysis of result with parity shows uniparous women up to 22.2 percent (4/18), and multiparous women 77.7 percent (14/18). Risk factor analysis shows previous caesarean section in 55.5 percent (10/18), placenta previa in 33.3 percent (6/18) and pre-eclampsia in 11.1 percent (2/18).

Rageh et al¹² found that pre-operative Hb was 10.64 ± 1.01 gm/dL and there was significant decline in the postoperative Hb reaching 8.36 ± 1.21 gm/dL. The mean drop in Hb was 2.28 ± 1.43 gm/dL. Estimated intra-operative blood loss was 974.4 ± 398.05 ml in the towels and 847.6 ± 362.56 ml in the suction apparatus. The total blood loss was 1822 ± 653.73 ml. The mean number of units of whole blood transfused was 2160.0 ± 825.6 ml and fresh frozen plasma was 1010.0 ± 349.7 ml. Regarding intra-operative complications, bladder injury was the most common one in 14 cases (56%), followed by ureteric injury in two cases (8%). Postoperative ICU admission was in 6 cases (24%) and the mean duration of hospital stay 12.44 ± 4.07 days. No cases of maternal mortality reported.

CONCLUSION

Authors found that abnormal placentation was placenta accrete seen in maximum cases and it is associated with multiparous parity.

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