

Late postpartum hemorrhage due to placental and fetal membrane residuals: experience of two cases

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Summary

Purpose: To investigate the cause and preventative measures of late postpartum hemorrhage resulted from placental and fetal membrane residuals. **Materials and Methods:** Retrospective analysis on 161 cases of late postpartum hemorrhage resulting from residuals of placenta and fetal membrane from 2002 to 2012. **Results:** Among the 161 cases, there were 148 cases of vaginal delivery and 13 cases of cesarean section delivery. One hundred twenty-one cases (4.77%) of placental and fetal membrane residuals were present in 2,535 cases of pregnant women with history of abortion; 40 cases (2.01%) of placental and fetal membrane residuals were found in 1,989 cases of pregnant women without history of abortion. **Conclusion:** Placental and fetal membrane residuals are the major cause of late postpartum hemorrhage. Repeated abortion will increase the incidence of late postpartum hemorrhage resulting from placental and fetal membrane residuals.

Key words: Late postpartum hemorrhage; Residual; Placental and fetal membrane; Management.

Introduction

Late postpartum hemorrhage refers to massive uterine bleeding occurred during puerperium after delivery in 24 hours as a serious complication in obstetrics which will endanger the life of the puerperant [1].

Materials and Methods

Retrospective analysis of 161 cases of late postpartum hemorrhage resulting from placental and fetal membrane residuals treated in the present hospital during the last previous ten years was conducted and reported.

Based on the diagnostic criteria for late postpartum hemorrhage as blood loss ≥ 500 ml after fetal delivery in 24 hours, 161 cases of late postpartum hemorrhage resulted from placental and fetal membrane residuals have been treated in the present hospital from January 1st, 2002 to December 31st, 2011. All cases belonged to term delivery, of which 148 cases were vaginal delivery, and 13 cases were cesarean section delivery. Seven cases were preoperatively diagnosed as placenta previa.

Results

The clinical manifestations were mainly present after incomplete inspection of placental separation, incomplete artificial separation, or long-lasting lochia rubra after uterine curettage. The characteristics of B ultrasonic imaging were present as echogenic mass inside the uterine cavity with intensive light spots as well as relatively clear edge and out-

line, indicating placental and fetal membrane residuals which was verified by pathological examination and blood beta-human chorionic gonadotropin (β -HCG).

For full-term vaginal delivery, uterine contraction, uterine hardness, and uterine fundus height were observed every half hour within postpartum two hours. At postpartum two hours, uterine fundus height equalled the width of two fingers below the umbilicus, which slowly rose at postpartum 12 hours. When uterine fundus was inspected on the next day, it could have resulted above the umbilicus. Thus, if uterine fundus was found to be above the umbilicus within postpartum two hours, problems with involution of uterus were present. Vaginal bleeding and discharge were observed and samples were collected for examination if necessary.

The medical treatment applied was mifepristone 7.5 mg on an empty stomach in the morning for six days consecutively, while 15 g of biochemical granules were additionally administered, three times a day for three to six days. Follow up occurred after 12-40 days to assess the effect. The standard of efficacy was classified as cured: complete cessation of lochia rubra, B ultrasonography indicated normal echo or no tissue residues and normal blood β -HCG. Ineffective: lochia rubra had not ceased, B ultrasonography still showed patchy strong echo, and blood β -HCG was still higher than normal level. Results: among 57 cases of patients who received medication, 42 cases were cured and other 15 cases underwent uterine curettage.

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Table 1. — *The relationship between abortion and placental residual.*

Group	Total number of cases	Number of cases with placenta residual	Percentage
Patients with history of abortion	2,535	121	4.77%
Patients without history of abortion	1,989	40	2.01%
Total	4,524	161	3.56%

The surgical treatment in patients with late postpartum hemorrhage with severe anemia accompanied by shock, symptomatic treatments such as antishock, fluid infusion, hemostasis, anti-infection, etc. was prescribed. For patients that underwent vaginal delivery with massive bleeding, most of them required immediate uterine curettage. One hundred four patients in this group were treated by uterine curettage, in which the scraped material was identified by pathological examination as placental and fetal membrane residuals. The patients were treated postoperatively with oxytocin, hemostatic agents, and antibiotics, etc. until symptoms were alleviated.

Sexual activity was prohibited for one month, and contraception was prescribed for six months. The patients were counselled to choose proper methods of contraception, re-examined after one month, and followed up if bleeding continued.

The incidence of placental residual in patients with history of abortion was higher than those without history of abortion as shown in Table 1 (comparison made between the two groups, $p < 0.05$), indicating the endometrium repairs incompletely after operation and the ratio of abnormal placental attachment and placental adhesion is high during re-pregnancy, while postpartum hemorrhage is easily present.

Discussion

The primary causes of late postpartum hemorrhage are tissue residues of placenta or fetal membrane, intrauterine infection, and subinvolution of placenta attachment site, etc, while tissue residues of placental and fetal membrane is one of the most common causes of postpartum hemorrhage [2]. This kind of hemorrhage is mostly present at approximately postpartum two weeks when a portion of placental and fetal membrane residuals degenerate, organize, then blood vessels at the basal part are exposed due to drop of the tissue residues leading to hemorrhage which are mostly related to improper handling at the third stage of labor [3]. Midwives are prohibited to drag the umbilical

cord by force during the third stage of labor, and manual removal of placenta should be conducted if the placenta is not removed 30 minutes after delivery. Careful inspection should be performed when the placenta and fetal membrane are completely discharged or not after operation, and intrauterine inspection or bedside color B ultrasonography should be conducted to make a definite diagnosis if necessary. The possibility of placental implantation should be carefully noted if residues of placenta or fetal membrane are present after cesarean section [4].

For the causes placental residual, besides related to repeated delivery, abortion, especially if repeated, will lead to increase incidence of the disease, because the endometrium will be damaged by dilatation and curettage during abortion, possibly leading to endometrial scarring and atrophy [5]. When fertilized egg is implanted, in order to obtain sufficient nutrition, placental area increases and its attachment site expands downwards, therefore, incomplete removal of placenta is easily present during delivery, directly resulting in severe postpartum hemorrhage [6]. It is suggested by the present data that disease resulting from residual of placenta is significantly related to abortion directly, therefore, great attention should be paid to technical guidance for women at child-bearing age with contraceptive method, reducing unplanned pregnancy and incidence of abortion.

References

- [1] Rath W.H.: "Postpartum hemorrhage—update on problems of definitions and diagnosis". *Acta Obstet. Gynecol. Scand.*, 2011, 90, 421.
- [2] Hazra S., Chilaka V.N., Rajendran S., Konje J.C.: "Massive postpartum haemorrhage as a cause of maternal morbidity in a large tertiary hospital". *J. Obstet. Gynaecol.*, 2004, 24, 519.
- [3] Krishna H., Chava M., Jasmine N., Shetty N.: "Patients with postpartum hemorrhage admitted in intensive care unit: Patient condition, interventions, and outcome". *J. Anaesthesiol. Clin. Pharmacol.*, 2011, 27, 192.
- [4] Zou L.Y., Fan L.: "Induced termination of second and third trimester pregnancy in women with scarred uterus". *Zhonghua Fu Chan Ke Za Zhi*, 2010, 45, 17.
- [5] Leduc D., Senikas V., Lalonde A.B., Ballerman C., Biringer A., Delaney M., *et al.*: "Active management of the third stage of labour: prevention and treatment of postpartum hemorrhage". *J. Obstet. Gynaecol. Can.*, 2009, 31, 980.
- [6] Shi C.Y., Qu S.H., Yang L., Yang H.X.: "Detection of maternal colonization of group B streptococcus in late pregnancy by real-time polymerase chain reaction and its effect on perinatal outcome". *Zhonghua Fu Chan Ke Za Zhi*, 2010, 45, 12.

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