

## Estimate of Women Bleeding After Cesarean Delivery

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**Abstract:** This study aims to Estimate of women bleeding after cesarean delivery; 120 patients were collected from different hospitals in Iraq, and they were distributed into two groups (Postpartum hemorrhage group, N=70) (non-postpartum hemorrhage group, N=50) where Use the Medical Records Retrieval System to find the postpartum child, who underwent a cesarean section again in the obstetric department of the hospital from August 2019 to October 2020. The postpartum hemorrhage group was selected as a patient (postpartum hemorrhage group), and the remainder was used as a control group (no postpartum hemorrhage group). The OR value of Placenta previa was 4.003 (1.571-10.201) in patients who underwent cesarean section in this study, which is higher. This is significantly higher than the 4.003 (1.571 - 10.201) reported in the cesarean section group, so Caesarean section and postpartum hemorrhage suggest that Placenta previa, general anesthesia, is the primary risk factor for preventing postpartum hemorrhage in women who have a repeat cesarean section.

**Keywords:** postpartum, PPH, Placenta previa, Antepartum, Pregnancy.

## INTRODUCTION

Postpartum hemorrhage is severe bleeding after the baby is born and about 4 percent of women have a postpartum hemorrhage, and cesarean delivery is the most likely. [Shane, B. *et al.*, 2006; Khan, K.S. *et al.*, 2006] Bleeding may occur before or after the birth of the placenta as the average amount of blood lost after the birth of an only baby during a vaginal delivery is about 500 ml (or about a pint). The average amount of blood lost for cesarean delivery is about 1,000 ml (or 1 liter), and most postpartum bleeding occurs immediately after delivery, but it can also occur later [WHO, 2003; Cunningham, F.G. *et al.*, 2010; Abbaspoor, Z. *et al.*, 2012].

Postpartum hemorrhage (PPH) is an emergency obstetric condition with several effective medical and surgical treatments. For patients with PPH who have given birth vaginally or who have completed a cesarean section, medical treatment and limited surgical intervention are preferred; When minimally invasive treatment fails, an abdominal incision is usually a last resort. [Mander, R. *et al.*, 2008]

During cesarean section, administration of uterotonics, manual uterine massage, and pressure remain the primary treatments for asthenic bleeding, but because the abdominal cavity is opened, surgical intervention can be performed more quickly to control the bleeding. [Berg, C.J. *et al.*, 2005]

General principal, A variety of surgical interventions can effectively control PPH [Al-Zirqi, I. *et al.*, 2008]. Hysterectomy may be most effective in patients with severe bleeding, such as placental adhesions or uterine rupture, and clinicians should use clinical judgment to decide whether to take the time to try conservative treatment [Dildy III, G.A. *et al.*, 2004; Stafford, I. *et al.*, 2008].

In many cases, blood loss is minimized, which can lead to a delay in diagnosis and treatment. For pregnant women who have had a cesarean section, the consequences are worse because they differ from a normal delivery where the bleeding is visible from the outside. Usually, intraperitoneal bleeding, so the delay may be in Diagnosis is longer [Glover, P. *et al.*, 2003].

## MATERIAL AND METHOD

### Patient Sample

This study was approved by the Ethics Committee as a retrospective study based on medical record data was performed. Use the Medical Records Retrieval System to find the postpartum child, who underwent a cesarean section again in the obstetric department of the hospital from August 2019 to October 2020.

One hundred twenty patients were collected from different hospitals in Iraq; they were distributed into two groups (Postpartum hemorrhage group, N=70) (non-postpartum hemorrhage group, N=50).

**Study Design**

Inclusion criteria: (1) women who had undergone cesarean section with complete case data (2) age between 20 and 45 years. Exclusion criteria: - gestational age < 28 weeks; Patients with bleeding disorders, severe coagulation disorders, and preoperative anticoagulant therapy. According to the guidelines for postpartum bleeding.

The postpartum hemorrhage group was selected as a patient (postpartum hemorrhage group), and the remainder was used as a control group (no postpartum hemorrhage group). [Berg, C.J. et al., 2005; Dildy III, G.A. et al., 2004] reports and clinical experience, indicators for research aggregated clinical data include: maternal age, body mass index (BMI), gestational age, number of cesarean deliveries, number of pregnancies,

history of miscarriage, uterine fibroids pregnancy, the time elapsed Since last cesarean section, lower anterior wall thickness of the uterus, gestational diabetes, gestational hypertension, preeclampsia, prenatal anemia, thrombocytopenia, hyperthyroidism.

**Study Period**

Cooperated with the relevant committees to obtain licenses for this study to collect information and demographic data for patients who underwent a cesarean section in the obstetrics department in the hospital from August 2019 to October 2020.

**Aim of Study**

This study aims to Estimate of women bleeding after cesarean delivery.

**RESULTS**

**Table 1:** Outcome's final of patients

	<b>Postpartum hemorrhage group, N=70</b>	<b>Non-postpartum hemorrhage group, N=50</b>	<b>P-Value</b>
Mother's age / year	30.04±5.9	31.56±7.5	0.44
BMI/kg m-2	28.5 ± 3.6	28.5 ± 4.6	0.65
Pregnancy week	36.1 ± 2.5	38.5 ± 1.7	0.001
Pregnancy with uterine fibroids	4	5	0.33
Antepartum hemorrhage	1.8 ± 0.7	1.4 ± 0.4	0.001
Premature delivery	12	7	0.98
Blood disorders	10	7	0.05
Hypothyroidism	10	6	0.09
Pregnancy diabetes	9	8	≤0.001
gestational hypertension	7	6	≤0.001
Eclampsia	8	6	≤0.001

**Table 2:** Outcome's final of patients

	<b>Postpartum hemorrhage group, N=70</b>	<b>Non-postpartum hemorrhage group, N=50</b>	<b>P-Value</b>
general anesthesia	50	40	
Other types of anesthesia	20	10	
Fetal weight/kg	2.8 ± 0.75	3.1 ± 0.4	
ASA			
I ~II	60	42	0.0023
III ~IV	10	8	0.69
postpartum hemorrhage	1230.6 ± 556.3	399.6 ± 134.6	<0.001
Operation time/min	120.2 ± 44.5	80.2 ± 16.6	<0.001
hospital stay / d	6.6 ± 2.9	2.8 ± 1.3	<0.001

**Table 3:** Analyze the results according to logistic regression (postpartum hemorrhage)

	<1000 mL (95% CI)	P value	≥1000 (95% CI)	P-value
Placenta previa	4.003 (1.571 - 10.201)	0.28	9.2 (5.5-17.6)	0.86
Mother's age / year	5.6 (3.4-8.9)	0.001	7.8 (6.6- 12.9)	0.0033
Antenatal transfusion	6.00 (2.0-16.72)	0.04	11.21 (3.51-35.79)	0.01
General anesthesia	15.2 (8.22 -30.9)	0.002	19.8 (10.4 - 34.44)	≤0.001
Blood disorders	11.1 (5.5 -16.12)	0.4	12.4 (6.3-17.9)	0.33
Hypothyroidism	2.2 (1.1-3.8)	0.87	3.8 (2.8-7.8)	0.92
ASA	4.2 (2.9- 6.6)	0.01	8.8 (5.9 20.3)	0.33

## DISCUSSION

In this study, 120 patients were collected from different hospitals in Iraq, and the patients were divided into two groups (Postpartum hemorrhage group, N=70) (non-postpartum hemorrhage group, N=50). Through the statistical analysis of the demographic data of the patients, we find that the true value and the arithmetic mean of the age of the patients in the Postpartum hemorrhage group was  $30.04 \pm 5.9$ , as for the non-postpartum hemorrhage group, It was  $31.56 \pm 7.5$ , and a significant increase in body mass index was found in the group of patients.

By analysing logistic regression, this study found that Placenta previa was significant risk factors for postpartum hemorrhage, which was consistent with previous research and clinical practice. Placenta previa is known to be an important cause of obstetric hemorrhage [Patel, A. *et al.*, 2006], and it is also one of the important indications for a cesarean section; in addition, the OR value of Placenta previa was 4.003 (1.571-10.201) in patients who underwent cesarean section in this study, which is higher This is significantly higher than the 4.003 (1.571 - 10.201) reported in the cesarean section group. Caesarean section Injury and its important effect on postpartum hemorrhage suggest that Placenta previa, general anesthesia, is the primary risk factor for preventing postpartum hemorrhage in women who have a cesarean section. Therefore, anesthesiologists and obstetricians should pay close attention to the bleeding risks of cesarean sections with the placenta.

According to the WHO definition, puerperal anemia should be considered a condition in which the hemoglobin level is less than 100 g/L [Khan, K.S. *et al.*, 2006]. According to different authors, postpartum anemia occurs in 20-40% of women [Marshall, N.E. *et al.*, 2011; Kawakita, T. *et al.*, 2019; OSCSO, 2014]. Puerperal anemia is most often caused by blood loss at the birth of more than 1000 ml, which occurs in 5% of all women

who have given birth [Al-Zirqi, I. *et al.*, 2008; Grobman, W. A. *et al.*, 2007]. Most often, increased blood loss occurs during an abdominal delivery.

In addition to placental factors, we found that prenatal anemia by Calder. *et al.*, 2010 [Figuroa, L. *et al.*, 2020; Suzuki, S. *et al.*, 2012] is also the main causes of postpartum hemorrhage in women with repeated cesarean sections, which is consistent with findings reported in the previous literature. Most of the current studies believe that the causes of atony in the uterus are complex, among which pregnancy complications, polygyny, advanced age, and gigantism are most likely to cause uterine atony, but results vary widely.

General anesthesia was not found to be a risk factor for postpartum hemorrhage in this study. However, many domestic and foreign literatures suggested that general anesthesia may lead to more blood loss compared to spinal anesthesia [Bi, S. *et al.*, 2021]. This may be related to the effect of general anesthetics on uterine contraction and platelet function and may also be related to a more severe preoperative condition of the general anesthesia patients themselves, but the current conclusions are mainly from observational studies and other confounding factors prior to surgery. It cannot be directly excluded, so it is necessary further to clarify the effect of general anesthesia on a postpartum hemorrhage. Based on the results of this study, general anesthesia for cesarean delivery may not increase the risk of bleeding.

## CONCLUSION

In this study, 120 patients were collected to determine the risk factors for postpartum hemorrhage, where a retrospective study was conducted to patients in different hospitals in Iraq related to postpartum hemorrhage ,Placenta previa, prenatal anemia, and prolonged operation time.

## RECOMMENDATIONS

Heavy bleeding often continues while surgeons prepare and perform procedures to control the bleeding. Temporary hemostasis should be attempted prior to any surgical procedure (e.g., retroperitoneal opening), as it is time-consuming to identify and/or control the source of bleeding. In a patient with severe coagulopathy, once the pelvic or retroperitoneal cavity is filled with blood and initially non-hemorrhagic structures begin to bleed, even a seemingly easy-to-perform simple hysterectomy can become very difficult.

In addition to fluids and transfusion products, the following measures can provide hemodynamic support during preoperative preparation, as well as during surgical evaluation and treatment, and can save lives. The choice depends on the urgency of controlling the bleeding, the source of the bleeding (intrauterine or ectopic), and the surgeon's experience and preference.

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