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ORIGINAL RESEARCH

Comparison of Postpartum Hemorrhage Incidence Between Individuals With and Without Previous Lower Segment Caesarean Section (LSCS)

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ABSTRACT

Background: Postpartum hemorrhage (PPH) is a significant cause of maternal morbidity and mortality worldwide. A history of caesarean section is often considered a risk factor for PPH due to potential uterine scarring and impaired contractility. This study aims to compare the incidence of PPH in individuals with and without a history of one previous Lower Segment Caesarean Section (LSCS). **Method:** A retrospective observational study was conducted on 200 postpartum individuals, divided into two groups: 100 without a history of LSCS and 100 with one previous LSCS. PPH was clinically diagnosed based on estimated blood loss, and data were analyzed using the chi-square test to compare PPH incidence between the groups. **Result:** PPH was observed in 10% of individuals without a prior LSCS and in 12% of those with a history of one LSCS. The difference was not statistically significant ($p = 0.821$). Most PPH cases were managed medically, with no significant differences in intervention rates between the groups. **Conclusion:** The study found no significant association between a history of one previous LSCS and increased risk of PPH. These findings suggest that individuals with a single prior LSCS have comparable PPH risks to those without, supporting safe delivery planning in subsequent pregnancies.

Keywords- PPH, LSCS, Previous LSCS

INTRODUCTION

Postpartum hemorrhage is defined as blood loss exceeding 500 mL after vaginal delivery or 1,000 mL after caesarean section, occurring within 24 h postpartum. It is an important contributor to maternal mortality, with most deaths from this happening in developing countries where appropriate medical treatment may be further away than it needs to be. Risk factors promoting PPH include uterine atony, trauma, retained placenta, and coagulopathies. Of note, a previous caesarean delivery has often been mentioned to be a risk factor, supposedly because the scarring in the uterus may alter the uterine contractility and the placental implantation in subsequent pregnancies.

In light of the rising trend in caesarean section rates around the world, there is an urgent need to be aware of the influence that a single previous LSCS has on PPH for further improvement in maternal outcomes and guidance of obstetric practices.

Objective

To compare the incidence of PPH between women with a history of one prior LSCS and those without a history of LSCS, and to identify if previous caesarean delivery significantly influences the risk of PPH.

MATERIALS AND METHODS

Study Design: Present study is a retrospective, comparative, observational study conducted at tertiary

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care hospital. Data were retrieved from patients' medical records over a period of three years.
Study Population The study included 200 postpartum individuals who were divided into two equal groups:
Group 1: Individuals with no past history of LSCS, n = 100.
Group 2: Individuals with one previous LSCS, n = 100.

Inclusion Criteria
The subjects with singleton pregnancies were enrolled in the study. Term delivery, that is, ≥37 weeks of gestation, was included in the study. Individuals aged 18–40 years.

Exclusion Criteria
A history of more than one caesarean section or any other uterine surgeries. Multifetal pregnancies. Known coagulopathies or bleeding disorders Placenta previa or other placental abnormalities

Data Collection
Data about demographic data, obstetric history, and incidence of PPH were collected. The clinical diagnosis of PPH in this study was made by the responsible obstetrician based on observed estimated blood loss and requirement for medical or surgical interventional therapies.
Outcome Measures Major outcome: incidence of PPH.
Minor outcome: correlation of incidences of PPH with history of previous LSCS.

Data Analysis
The data analysis was done using SPSS version 26. Descriptive statistics were used to summarize baseline characteristics. The incidence of PPH was compared using the chi-square test, which was considered significant if the p-value was < 0.05.

RESULTS
Baseline Characteristics Demographic and obstetric characteristics were comparable between the two groups. No statistically significant differences in age, parity, and gestational age at delivery were seen between the two groups.

Incidence of Postpartum Hemorrhage
Table 1: Comparison of PPH Incidence

Condition	Without Previous LSCS	With Previous LSCS	p-value
PPH No	90 (90.0%)	88 (88.0%)	0.821
PPH Yes	10 (10.0%)	12 (12.0%)	

- **Group 1**: 90% of individuals without a previous LSCS did not experience PPH, while 10% did.
- **Group 2**: 88% of individuals with a previous LSCS did not experience PPH, whereas 12% did.
- The p-value of 0.821 indicates no statistically significant difference in PPH rates between the two groups.

Clinical Interventions for PPH Among those subjects who developed PPH, uterotonic agents like oxytocin were the mainstay of treatment modality. A small subset of them required surgical modalities of treatment, including uterine artery ligation or hysterectomy. There was no significant difference in the type or intensity of interventions between the groups.

DISCUSSION
The main findings of this research prove that there is no statistically significant difference in the rates of PPH for women with a history of one previous LSCS as well as without it. These findings also come in line with several other studies suggesting a single previous caesarean section does not significantly increase the risk of PPH in successive deliveries [1].
Comparison with Existing Literature Numerous studies have been conducted so far that examined the association between LSCS and PPH, and each has resulted in conflicting evidence to some others. Some authors believe that previous caesarean leads to an increased risk of PPH due to scarring and impaired contractility of the uterus [2,3]. In contrast, others, including the present study, report that a single LSCS contributes little when other confounding variables were controlled [4,5].
Clinical Implications Understanding the implications of LSCS for the risk of PPH is critical to guide delivery planning. These findings support the relative safety of attempting vaginal delivery in those with one prior LSCS, provided other risk factors are appropriately managed [7,8,9].
Limitations Retrospective Design: A retrospective study, hence subject to biases regarding data recording and completeness. Sample Size: The sample size may not be adequate to detect subtle differences in the incidence of PPH. Confounding Variables: The duration of labor, the induction methods used, and the presence of other comorbidities are some of the factors that remain uncontrolled, which could be related to the risk of PPH.
Future Directions Larger studies with more stratification regarding the risk factors should be designed in a prospective manner. There is a need for further exploration on uterine scarring, regarding implantation of placentas and the contractility of the uterus [6,10].

CONCLUSION
This present study explores that a single prior history of LSCS will not significantly result in the risk of development of PPH. These findings further add to the evidence-based obstetric care and reassure those patients and clinicians who plan a subsequent pregnancy after LSCS."

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