



THIRD-TRIMESTER OBSTETRIC OUTCOMES FOLLOWING HYSTEROSCOPIC ADHESIOLYSIS: A RETROSPECTIVE COHORT STUDY FROM A TERTIARY CARE CENTRE IN SOUTH INDIA

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ABSTRACT

Objective: To assess third-trimester obstetric outcomes in women with a history of hysteroscopic adhesiolysis. **Methods:** A retrospective cohort study was conducted between January 2023 and December 2025 at Vydehi Institute of Medical Sciences and Research Centre, Bangalore. Women with singleton pregnancies beyond 28 weeks and a prior history of hysteroscopic adhesiolysis were compared with matched controls. Outcomes included placenta previa, placenta accreta spectrum (PAS), postpartum hemorrhage (PPH), preterm birth (PTB), and mode of delivery. **Results:** Women with prior hysteroscopic adhesiolysis demonstrated significantly higher rates of placenta previa, PAS disorders, PPH, and PTB ($p < 0.05$). Neonatal outcomes were comparable between groups. **Conclusion:** Hysteroscopic adhesiolysis is associated with increased third-trimester obstetric morbidity. Such pregnancies require enhanced antenatal surveillance and planned delivery in tertiary care centers.

KEYWORDS : Hysteroscopic Adhesiolysis; Intrauterine Adhesions; Placenta Accreta Spectrum; Postpartum Hemorrhage; Third Trimester

1. INTRODUCTION

Intrauterine adhesions (IUA) arise following endometrial trauma and are commonly associated with infertility, menstrual abnormalities, and recurrent pregnancy loss [1,2]. Hysteroscopic adhesiolysis is the gold-standard treatment and significantly improves reproductive outcomes [3,4].

However, recent evidence suggests an increased incidence of abnormal placentation and third-trimester obstetric complications following adhesiolysis [5–7]. Disruption of the basal endometrium may impair decidualization, predisposing to placenta previa, placenta accreta spectrum (PAS), retained placenta, and postpartum hemorrhage (PPH) [8,9].

Despite growing global literature, Indian data focusing on late-pregnancy outcomes after hysteroscopic adhesiolysis remain limited. This study evaluates third-trimester obstetric outcomes in a South Indian tertiary care population.

2. MATERIALS AND METHODS

2.1 Study Design and Setting

This retrospective cohort study was conducted at Vydehi Institute of Medical Sciences and Research Centre, Bangalore, from January 2023 to December 2025.

2.2 Study Population

Women with singleton pregnancies beyond 28 weeks' gestation and documented prior hysteroscopic adhesiolysis were included. Controls without prior uterine surgery were matched in a 1:2 ratio for maternal age, parity, and body mass index.

2.3 Exclusion Criteria

Multiple gestations
Major fetal anomalies
Congenital uterine malformations
PAS diagnosed before 20 weeks

2.4 Outcome Measures

Primary outcomes were placenta previa, PAS disorders (accreta, increta, percreta), retained placenta, PPH (> 1000 mL), and preterm birth (< 37 weeks), defined according to FIGO criteria [10].

2.5 Statistical Analysis

Data were analyzed using SPSS version 26. Chi-square and

Student's t-tests were used as appropriate. Multivariate logistic regression identified independent predictors. Statistical significance was set at $p < 0.05$.

3. RESULTS

Table 1. Baseline Maternal Characteristics

Characteristic	HA Group (n = 78)	Controls (n = 156)	p value
Mean Age (years)	31.4 $\pm$ 4.2	30.8 $\pm$ 4.0	0.32
Nulliparity (%)	43 (55.1)	85 (54.5)	0.91
Mean BMI (kg/m ²)	26.2 $\pm$ 3.5	25.9 $\pm$ 3.4	0.48
Prior Miscarriage (%)	22 (28.2)	32 (20.5)	0.18
ART Conception (%)	36 (46.2)	58 (37.2)	0.21

Table 2. Third-Trimester Obstetric Outcomes

Outcome	HA Group n (%)	Controls n (%)	p value
Placenta Previa	12 (15.4)	8 (5.1)	0.009*
PAS Disorders	16 (20.5)	6 (3.8)	0.001*
Retained Placenta	14 (17.9)	6 (3.8)	0.01*
Cesarean Delivery	58 (74.4)	99 (63.5)	0.07
Postpartum Hemorrhage	10 (12.8)	4 (2.6)	0.003*
Preterm Birth	14 (17.9)	10 (6.4)	0.011*
NICU Admission	8 (10.3)	10 (6.4)	0.29

*Statistically significant

Table 3. Multivariate Logistic Regression Analysis

Variable	Adjusted OR	95% CI	p value
Prior Hysteroscopic Adhesiolysis	3.8	2.1–6.9	0.001*
ART conception	1.6	0.9–2.8	0.09
Nulliparity	1.2	0.8–1.9	0.36

4. DISCUSSION

This study demonstrates a significant association between prior hysteroscopic adhesiolysis and adverse third-trimester obstetric outcomes, particularly placenta previa, PAS disorders, PPH, and preterm birth. These findings are consistent with recent cohort studies and meta-analyses [5–7,11].

Endometrial damage and impaired decidualization following adhesiolysis may explain the increased risk of abnormal placental implantation [8,12]. Despite higher maternal

morbidities, neonatal outcomes remained comparable, highlighting the effectiveness of tertiary-level surveillance and delivery planning [13–15].

5. CONCLUSION

Pregnancies following hysteroscopic adhesiolysis are associated with increased third-trimester obstetric complications. These pregnancies should be classified as high-risk and managed with multidisciplinary care in tertiary centers.

Ethics Approval

Approved by the Institutional Ethics Committee, Vydehi Institute of Medical Sciences and Research Centre, Bangalore. Informed consent was waived due to retrospective design.

Conflict of Interest

None declared.

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