Predictors of Fetal Malpresentation in Women with a History of Myomectomy: The Role of Fibroid Location and Surgical Timing

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BACKGROUND

- Uterine fibroids affect up to 70% of reproductive-age women and are a leading indication for myomectomy.
- Prior studies focus on fibroid presence during pregnancy, leaving a gap in understanding how fibroid **location after surgical removal** impacts obstetric outcomes.
- Fetal malpresentation is a key driver of cesarean delivery and perinatal morbidity.

OBJECTIVES

Primary: Evaluate the relationship between uterine fibroid location at time of myomectomy and fetal malpresentation in subsequent pregnancies.

Secondary: Assess fibroid size, weight, myomectomy-to-delivery interval, and other clinical factors as predictors.

MATERIALS & METHODS

Study Design: Retrospective cohort study

Population: Patients with myomectomy followed by singleton delivery ≥24 weeks at Staten Island University Hospital

Exclusions: Multiple gestation, uterine anomalies, incomplete records

Fibroid location classified by FIGO system:

- Submucosal (types 0–2)
- Intramural (types 3–5)
- Subserosal/Pedunculated (types 6–7)

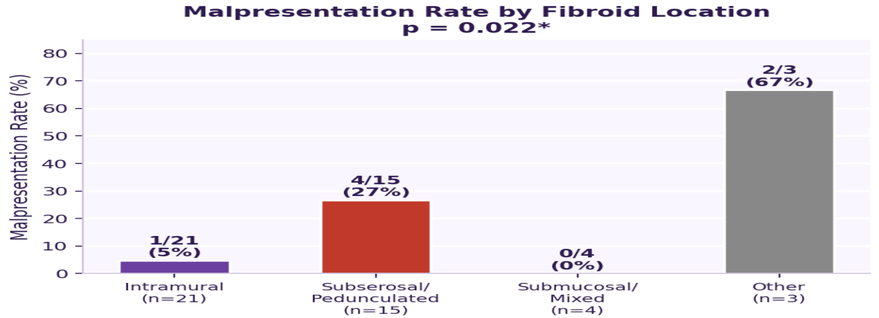
Key Variables: Fibroid size, weight, number; myomectomy-to-delivery interval; intraoperative adhesions; IVF vs. spontaneous conception; prior abdominal surgery; fetal presentation; mode of delivery

Statistical Analysis: Chi-square / Fisher's exact (categorical); Mann-Whitney U (continuous); Univariable logistic regression for OR with 95% CI; $p < 0.05$ = significant

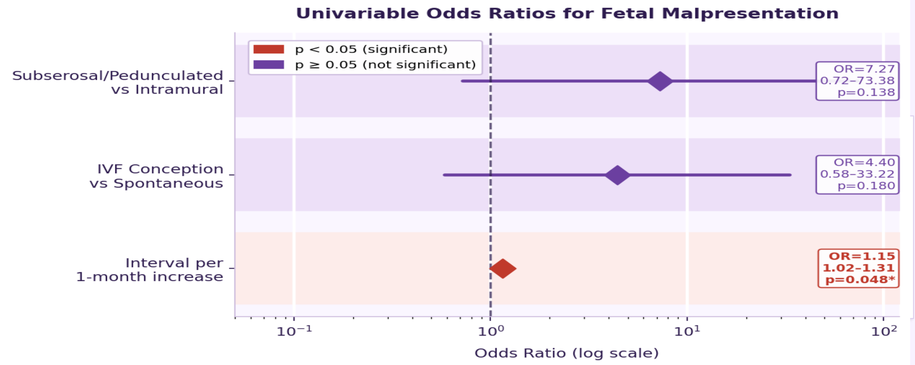
✦ KEY FINDING: Subserosal/pedunculated fibroid location and longer myomectomy-to-delivery interval are independently associated with fetal malpresentation ✦

43	16.3%	26.7%
Total Patients *included in study*	Malpresentation Rate *7 of 43 patients*	Subserosal Rate ***vs. 4.8% Intramural***

MALPRESENTATION RATE BY FIBROID LOCATION



ODDS RATIOS FOR FETAL MALPRESENTATION (LOGISTIC REGRESSION)



RESULTS — Logistic Regression Selected Data

Variable	OR (95% CI)	p
Subserosal vs Intramural	7.27 (0.72–73.4)	0.138
IVF Conception	4.40 (0.58–33.2)	0.180
Adhesions Present	0.29 (0.03–2.72)	0.396
Interval/month †	**1.155 (1.019–1.308)**	**0.048 ***
Interval/year †	**5.61 (1.26–25.09)**	**0.048 ***

** $p < 0.05$ † Logistic regression OR per stated unit increase*

CONCLUSIONS

✦ **Subserosal/pedunculated location** had the highest malpresentation rate (26.7% vs 4.8% intramural), p = 0.022.

✦ **Myomectomy-to-delivery interval** was the only significant continuous predictor: OR 1.155/month (95% CI 1.019–1.308), p = 0.048.

✦ **Fibroid size, weight, and number** were not significant predictors.

✦ Fibroid location and surgical timing should inform preconception counseling; larger prospective studies are warranted.

REFERENCES & SUPPORT

Donnez J, Dolmans MM. Uterine fibroid management. Hum Reprod Update. 2016.

Klatsky PC, et al. Fibroids and reproductive outcomes. Curr Opin Obstet Gynecol. 2008.

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