

# Obstetric Outcomes in Major Praevia Compared to Minor Praevia

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## Introduction

The global incidence of Placenta Praevia (PP) is 5.2 per 1000 deliveries.<sup>1</sup> It is well established that PP is associated with considerable maternal and perinatal morbidity,<sup>2,3,4</sup> however the utility of distinguishing between major and minor grades of PP remains questionable.<sup>5</sup> This study was designed to compare the outcomes of two grades of PP in a major tertiary unit.

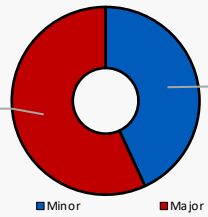
## Methodology

This retrospective cohort study analysed maternal and perinatal outcomes of women with PP at the Royal Brisbane & Women's Hospital, Australia, between 2009 and 2018. Placenta accrete spectrum disorders were excluded. R-test was used for statistical analysis.

## Results

A total of 378 women of 45,074 (8.4 per 1000) were recruited.

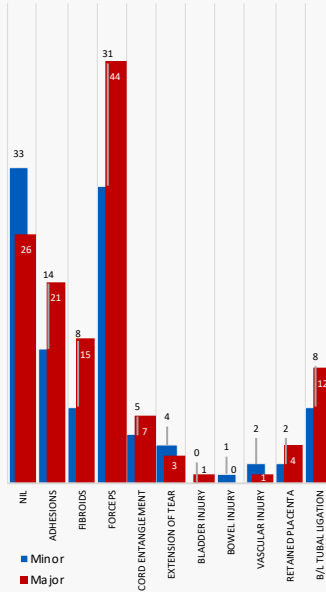
### DISTRIBUTION OF MINOR VS MAJOR



Antenatal Factors	Minor # (%)	Major # (%)
Interhospital Transfer	No: 16 (9.8%) Yes: 147 (90.2%)	No: 16 (7.4%) Yes: 199 (92.6%)
Smoking status	No: 141 (86.5%) Yes: 19 (11.7%) Not stated: 3 (1.8%)	No: 176 (81.9%) Yes: 35 (16.3%) Not stated: 4 (1.9%)
Antepartum Haemorrhage (APH)	0: 84 (51.5%) 1: 41 (25.2%) 2-5: 35 (21.5%) 6+: 3 (1.8%)	0: 58 (27.0%) 1: 63 (29.3%) 2-5: 86 (40.0%) 6+: 8 (3.7%)
Previous Uterine Surgery	Caesarean section: 52 (31.9%) Dilation + Curette: 18 (11.0%) Other uterine (myomect., resect'n): 0 Intra-abdo (e.g. app'x, cholecyst.): 0	51 (23.7%) 37 (17.2%) 1 (0.5%) 32 (14.9%)

Delivery details	Minor # (%)	Major # (%)
Mode of delivery	Vaginal Birth – unassisted: 7 (4.3%) Vaginal Birth – instrumental: 1 (0.6%) Lower Segment CS: 147 (90.2%) Classical CS: 8 (4.9%)	0 0 196 (91.2%) 19 (8.8%)
General Anaesthetic	No: 130 (79.8%) Yes: 33 (20.2%)	120 (55.8%) 95 (44.2%)
Office Hours	Within: 125 (76.7%) Outside: 37 (22.7%)	153 (71.2%) 59 (27.4%)
Gestational Age	≤ 27 <sup>w</sup> : 13 (8.0%) 28 <sup>w</sup> – 31 <sup>w</sup> : 13 (8.0%) 32 <sup>w</sup> – 36 <sup>w</sup> : 39 (23.9%) ≥ 37 <sup>w</sup> : 98 (60.1%)	18 (8.4%) 20 (9.3%) 100 (46.5%) 77 (35.8%)

### INTRA-OP COMPLICATIONS



Uterotonics	Minor # (%)	Major # (%)	OR
Medication Used			
Syntocinon bolus	107 (55.6%)	168 (78.1%)	1.19
Syntocinon infusion	123 (75.5%)	178 (82.3%)	2.27
Ergometrine	25 (15.3%)	50 (23.3%)	1.52
Carbetocin	22 (13.5%)	10 (4.7%)	0.34
Misoprostol	22 (13.5%)	54 (25.1%)	1.86
Carboprost	7 (4.3%)	14 (6.5%)	1.52

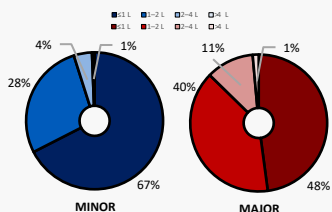
Uterotonic Combinations	Minor # (%)	Major # (%)	OR
One	55 (33.7%)	47 (21.9%)	0.65
Two	72 (44.2%)	94 (43.7%)	0.99
Three	19 (11.7%)	39 (18.1%)	1.56
Four (or more)	13 (8.0%)	30 (14.0%)	1.75

Additional Surgical Techniques	Minor # (%)	Major # (%)	OR
Figure of 8 sutures	67 (41.1%)	125 (58.1%)	1.41
Surgecill	13 (6.7%)	27 (12.6%)	1.86
Bakri Balloon	5 (3.1%)	12 (5.6%)	1.82
B-Lynch Sutures	5 (3.1%)	10 (4.7%)	1.52
Embolisation	1 (0.6%)	2 (0.9%)	1.52
Hysterectomy	1 (0.6%)	3 (1.4%)	2.27
Blekes Drain	2 (1.2%)	25 (11.6%)	9.48

Transfusions	Minor # (%)	Major # (%)	OR
Cell Saver	17 (10.4%)	61 (28.3%)	2.72
Tranexamic Acid	0	4 (1.9%)	n/a
Albumin	12 (7.4%)	31 (14.4%)	1.96
Cryoprecipitate	1 (0.6%)	9 (4.2%)	6.82
Fresh Frozen Plasma	2 (1.2%)	5 (2.3%)	1.90
Platelets	1 (0.6%)	1 (0.5%)	n/a

Packed RBCs (Units)	Minor # (%)	Major # (%)	OR
Nil	142 (87.1%)	162 (75.3%)	0.86
1-2	13 (8.0%)	31 (14.4%)	1.81
3-4	6 (3.7%)	15 (7.0%)	1.90
5+	2 (1.2%)	7 (3.3%)	2.65

### ESTIMATED BLOOD LOSS

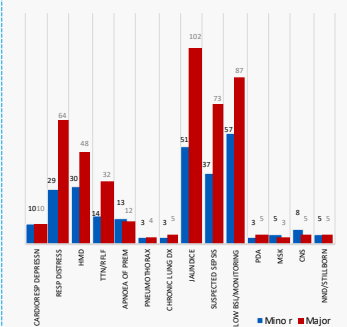


Post-op Complications	Minor # (%)	Major # (%)	OR
No Complications	95 (58.3%)	115 (53.5%)	0.92
Post-op ileus	0	6 (2.8%)	n/a
Urinary Tract Infection	3 (1.8%)	9 (4.2%)	2.27
Deep Vein Thrombosis	0	1 (0.5%)	n/a
Wound Issue	5 (3.1%)	7 (3.3%)	1.06
Fever/Septis	3 (1.8%)	15 (7.0%)	3.79
Breast Complication	8 (4.9%)	12 (5.6%)	1.14
Retained placenta	2 (1.2%)	2 (0.9%)	0.76
Return to theatre	1 (0.6%)	1 (0.5%)	0.76
Readmission within 30d	7 (4.3%)	10 (4.7%)	1.08

Post Partum Stay (days)	Minor # (%)	Major # (%)	OR
≤ 5	147 (87.1%)	168 (78.1%)	0.90
6-9	17 (10.4%)	32 (14.9%)	1.43
10+	4 (2.5%)	15 (7.0%)	2.84

Outcomes	Minor # (%)	Major # (%)	OR
Gender			
Male	78 (47.9%)	110 (51.2%)	1.07
Female	85 (52.1%)	105 (48.8%)	0.94
Birth weight			
BW < 2500g	45 (27.6%)	92 (42.8%)	1.55
1-min APGAR score			
0	2 (1.2%)	6 (2.8%)	2.27
1-2	9 (5.5%)	20 (9.3%)	1.68
3-6	32 (19.6%)	61 (28.4%)	1.45
≥ 7	120 (73.6%)	128 (59.5%)	0.81
5-min APGAR score			
0	2 (1.2%)	5 (2.3%)	1.90
1-2	3 (1.8%)	4 (1.9%)	1.01
3-6	13 (8.0%)	34 (15.8%)	1.98
≥ 7	145 (89.0%)	172 (80.0%)	0.90
Nursery Admission			
Special Care	73 (44.8%)	141 (65.6%)	1.46
Intensive Care	47 (28.8%)	93 (43.3%)	1.50

### NEONATAL COMPLICATIONS



## Conclusion

Despite the robust prevention and management of haemorrhage, major PP compared to minor PP demonstrated higher frequency of APH, intraoperative use of uterotonics, additional surgical measures and transfusions; yet, resulted in greater blood loss and more post-partum complications. A similar trend was noted in neonatal outcomes with lower birth weights, APGAR scores, and a higher nursery admission rate. This study highlights the importance of differentiation between major and minor PP, and necessity of a multidisciplinary approach within well-resourced hospital units.

## References

- Crosswell, J. A., Norman, C., Gilbert, C., & Filippi, V. (2013). Prevalence of placenta praevia by world region: a systematic review and meta-analysis. *Tropical medicine & international health*, 18(5), 722-724.
- Morera, N., Diaz, A., Mirera, S., Mirera, A., & Shrivastava, A. (2015). Impact of placenta praevia on obstetric outcomes. *Int J Reprod Contracept Obstet Gynecol*, 4(1), 30-36.
- Gilbert, K. J., Emerson, B. D., Varner, M. W., & Silver, R. M. (2018). Placenta praevia and maternal hemodynamic instability. *The Journal of Maternal-Fetal & Neonatal Medicine*, 29(6), 894-899.
- Hollmann, M., Gashofer, J., Lang, U., & Hantson, P. (2016). Placenta praevia: incidence, risk factors and outcomes. *The Journal of Maternal-Fetal & Neonatal Medicine*, 29(6), 825-828.
- Graniol, M., Stefanovic, V., Paavonen, J., Loukovaara, M., & Tikkanen, M. (2015). Major or minor placenta praevia: Does it make a difference?. *Placenta*.

