

## Outcomes Following Induction of Labour in Women with Gestational Diabetes – Does Gestational Age Make a Difference?

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### Background

- Gestational diabetes mellitus (GDM) affects 14% of Australian gravidas [1] and IOL is frequent in women with GDM at term to minimise maternal and fetal risks associated with continued gestation [2].

### Objective

- To compare maternal and neonatal outcomes of women and babies related to induction labour stratified by GDM and GA at term.

### Materials and Methods

- We compared maternal and neonatal outcomes in IOL stratified by GDM and gestational age at term (37-42 weeks)
- Our cohort included women from 1<sup>st</sup> January 2018 to 30<sup>th</sup> June 2021 with singleton, non-anomalous, term births excluding pre-existing diabetes and pre-labour caesarean sections (CS) from Westmead Hospital, Western Sydney LHD
- Induction at each gestational week was compared to expectant management for that week and all births in subsequent weeks.

### Results

- Rates of IOL was higher amongst GDM (50% vs 37%, p<0.001)
- PPH was more common in IOL vs non-IOL (10% vs 7%) (p<0.001) and in GDM vs non-GDM (9% vs 8%) (p = 0.04)
- CS was more common in IOL vs non-IOL (13% vs 10%) (p<0.001) and in GDM vs non-GDM (15% vs 11%) (p < 0.001)
- NICU admission was more common in IOL vs non-IOL (7% vs 5%) (p<0.001) and in GDM vs non-GDM (8% vs 5%) (p < 0.001)
- The effect of IOL did not differ by GDM at each GA at term (int p>0.05).

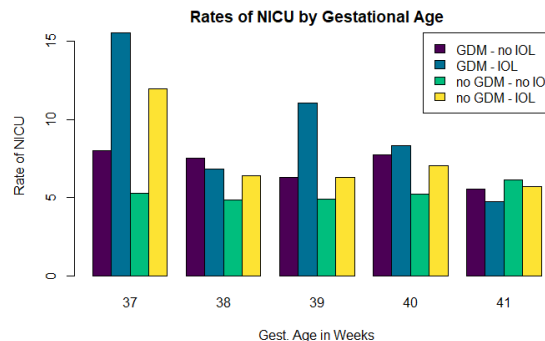
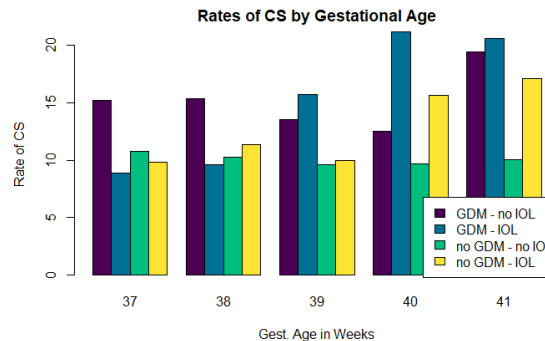
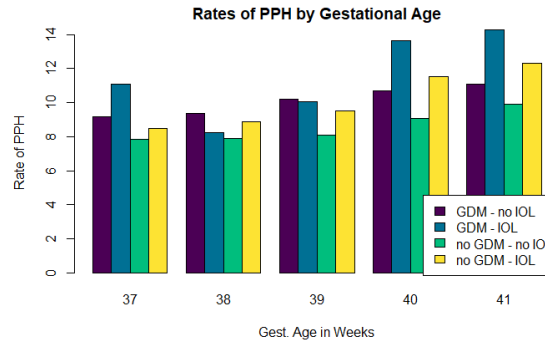
### Conclusion

- IOL was more common in GDM women and in most gestational windows the effect of IOL on outcomes did not depend on GDM status
- Our findings may suggest that the lowest rates of adverse outcomes associated with IOL is at 38-39+6 weeks.

### References

- Australian Institute of Health and Welfare, Australia's Mothers and Babies Data Visualisations. Available online: <https://www.aihw.gov.au/reports/mothers-babies/australias-mothers-babies-data-visualisations/data>
- Spong CY, Mercer BM, D'Alton M, Kilpatrick S, Blackwell S, Saade G. Timing of indicated late-preterm and early-term birth. *Obstet Gynecol* 2011;118:323-33.

### Results



Gestational age	Unadjusted OR for IOL (95% CI)	P value	Adjusted OR for IOL (95% CI)	P value	Adjusted OR for GDM (95% CI)	P value	Interaction P value - *IOL & GDM
37+0-37+6	1.09 [0.75, 1.58]	0.65	1.02 [0.70, 1.47]	0.93	1.09 [0.91, 1.31]	0.36	0.75
38+0-38+6	1.13 [0.86, 1.49]	0.36	1.09 [0.83, 1.44]	0.54	1.08 [0.88, 1.32]	0.47	0.49
39+0-39+6	1.19 [0.96, 1.47]	0.11	1.11 [0.89, 1.37]	0.36	1.17 [0.90, 1.52]	0.24	0.37
40+0-40+6	1.31 [1.04, 1.65]	0.02	1.22 [0.97, 1.55]	0.09	1.11 [0.74, 1.67]	0.63	0.96
41+0 and above	1.28 [0.91, 1.81]	0.16	1.12 [0.78, 1.60]	0.54	0.95 [0.32, 2.83]	0.93	0.95

Trend of increasing rates of PPH amongst GDM IOL as GA progresses (lowest 38 weeks).

Gestational age	Unadjusted OR for IOL (95% CI)	P value	Adjusted OR for IOL (95% CI)	P value	Adjusted OR for GDM (95% CI)	P value	P value for Interaction Parameter
37+0-37+6	0.90 [0.64, 1.27]	0.55	0.83 [0.58, 1.17]	0.29	1.16 [0.99, 1.35]	0.06	0.16
38+0-38+6	1.12 [0.88, 1.44]	0.34	1.06 [0.82, 1.36]	0.65	1.25 [1.06, 1.48]	0.01	0.02
39+0-39+6	1.04 [0.85, 1.28]	0.68	0.89 [0.72, 1.10]	0.30	1.20 [0.94, 1.52]	0.14	0.68
40+0-40+6	1.72 [1.40, 2.12]	<0.001	1.41 [1.13, 1.76]	0.002	1.06 [0.72, 1.57]	0.77	0.73
41+0 and above	1.84 [1.33, 2.56]	<0.001	1.38 [0.97, 1.95]	0.07	1.58 [0.64, 3.93]	0.32	0.32

At 38 weeks IOL was protective against CS in women with GDM (p interaction 0.02).

Gestational age	Unadjusted OR for IOL (95% CI)	P value	Adjusted OR for IOL (95% CI)	P value	Adjusted OR for GDM (95% CI)	P value	P value for Interaction Parameter
37+0-37+6	2.44 [1.77, 3.37]	<0.001	2.30 [1.66, 3.19]	<0.001	1.37 [1.12, 1.68]	0.002	0.70
38+0-38+6	1.35 [0.98, 1.85]	0.07	1.26 [0.91, 1.74]	0.17	1.38 [1.09, 1.73]	0.007	0.32
39+0-39+6	1.30 [1.00, 1.68]	0.05	1.16 [0.90, 1.51]	0.26	1.14 [0.90, 1.51]	0.43	0.21
40+0-40+6	1.36 [1.02, 1.82]	1.02	1.24 [0.92, 1.66]	0.16	1.33 [0.82, 2.14]	0.24	0.53
41+0 and above	0.92 [0.58, 1.46]	0.73	0.74 [0.46, 1.19]	0.21	0.67 [0.15, 3.01]	0.61	0.93

The effect of IOL on NICU admissions were highest prior to 38 weeks (aOR 2.3, 95% CI 1.7-3.2).