

SUCCESS RATES AND MATERNAL AND NEONATAL OUTCOMES WITH ATTEMPTED VAGINAL BIRTH AFTER TWO CAESAREAN SECTIONS IN A TERTIARY CENTRE IN WESTERN AUSTRALIA

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INTRODUCTION

Vaginal birth after two caesareans (VBAC-2) is increasing in popularity. Research has shown that the success rate of VBAC-2 is comparable to vaginal birth after one caesarean (VBAC-1), 71% vs 76%. However, the uterine rupture rate is higher with VBAC-2. A similar audit conducted in our tertiary obstetric unit between 2010-2015 showed a 55% success rate and a uterine rupture rate of 3.2%, both of which differ from commonly cited studies.

We assessed the neonatal and maternal outcomes, and success rate of 170 consecutive patients with live singleton pregnancies who attempted VBAC-2 between 01/01/2016 until 12/12/2021 at our tertiary obstetric hospital in Western Australia.

AIMS

Primary outcomes

- Success rate of vaginal birth
- Uterine rupture rate
- Rate of maternal and neonatal mortality

Secondary outcomes

MATERNAL

- Rate of instrumental delivery
- Rate of high dependency unit (HDU) admission
- Postpartum haemorrhage > 1L
- Blood transfusion
- Rate of 3rd degree tears

NEONATAL

- APGAR <7 at 5 minutes
- Rate of admission to Neonatal Intensive Care Unit (NICU)
- Rate of cord blood acidemia

METHODS

A retrospective audit was undertaken with data sourced from maternal medical records and the centralised STORK database.

Exclusion criteria

- Previous uterine incision that was not transverse lower segment
- Delivery prior to the unit's age of viability (23 weeks' gestation)
- Stillbirth prior to onset of labour
- Any patient with a history of more than two previous caesarean sections

RESULTS

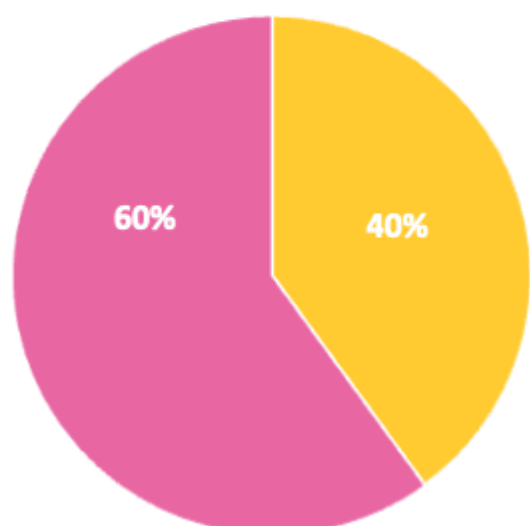
Primary outcomes

- There were no recorded cases of maternal or neonatal mortality
- Rate of successful vaginal delivery – 60% (n=120) **FIGURE 1**
- Rate of successful vaginal delivery (assisted and unassisted) of spontaneous labour vs induction (IOL) – 63.7% vs 43.7% (n=88 vs 14)
- Rate of uterine rupture – 1.18% (n=2)
- The rate of uterine dehiscence noted at time of caesarean - 1.76% (n=3)
- Rate of uterine rupture if spontaneous labour vs IOL – 1.45% vs 0% (n=2 vs 0)

FIGURE 1

VBAC2 MODE OF DELIVERY OUTCOME

- Vaginal delivery
- Non elective caesarean section



Secondary outcomes

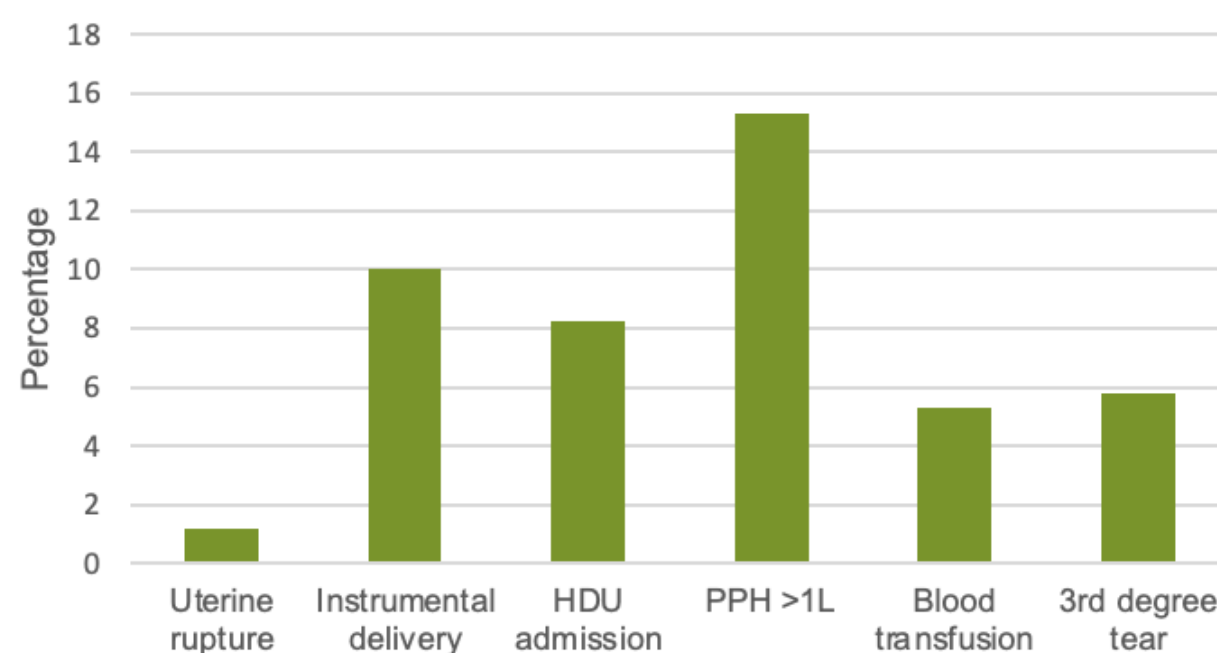
MATERNAL - GRAPH 1

- Rate of instrumental delivery – 10% (n=17)
 - Of the patients who had a successful vaginal birth, the rate of instrumental was 16.6% (n= 17/102)
 - There were 9 vacuum deliveries and 8 forceps deliveries
- Rate of high dependency unit (HDU) admission – 8.24% (n=14)
- Postpartum haemorrhage over 1L – 15.29% (n=26)
- Blood transfusion rate – 5.29% (n=9)
- Rate of 3rd degree perineal tears – 5.8% (n=6)

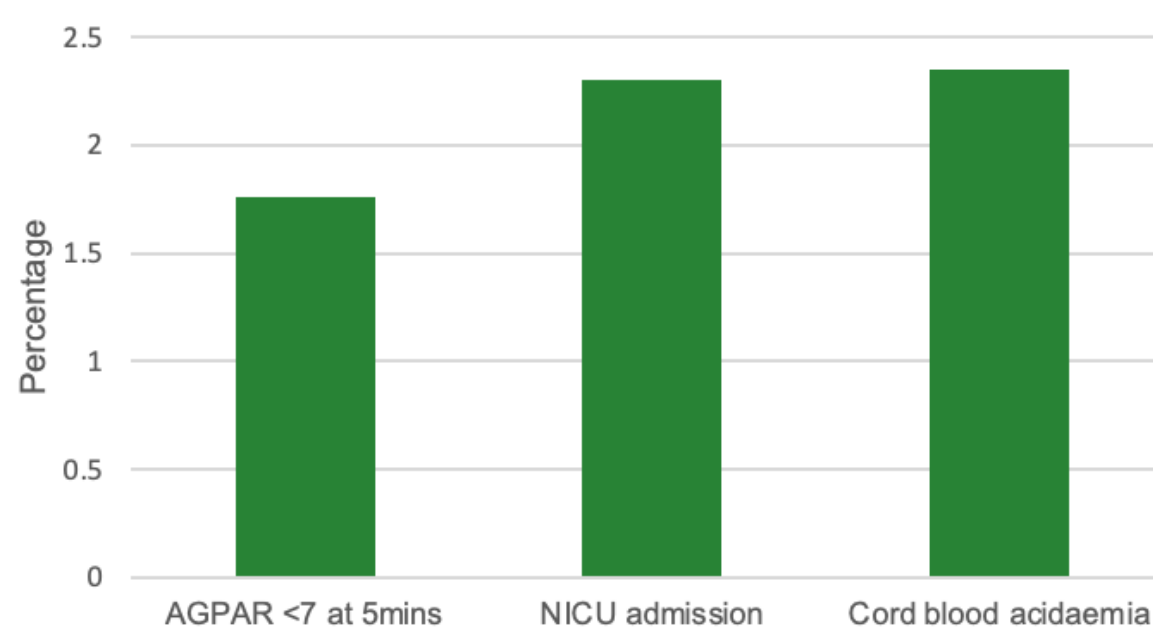
NEONATAL - GRAPH 2

- Rate of APGAR <7 at 5 minutes – 1.76% (n=3)
- Rate of admission to NICU – 22.9% (n=39)
- Rate of cord blood acidemia – 2.35% (n=4)

GRAPH 1 - MATERNAL OUTCOMES



GRAPH 1 - NEONATAL OUTCOMES



DISCUSSION

This study has shown a slightly higher success rate of VBAC-2 compared to the previous audit conducted at our unit. However, the rate is lower than other previous studies. Although the uterine rupture rate was low and therefore difficult to determine the statistical relevance, this studies' uterine rupture rate was lower than the previous study. In order to strengthen the statistical significance, there would need to be a study with a larger cohort across multiple units. Additionally, for patients who attempt a VBAC-2, the most common adverse outcome is a PPH >1L and HDU admission. The most common neonatal morbidity was admission to NICU.

In summary, the aim of this study was to identify the success and uterine rupture rates of patients attempting VBAC-2 in our tertiary unit compared to previous studies. This paper provides a preliminary guide to outcomes in our unit which can aid in the counselling of patients in pregnancy.

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