

PROLONGED SECOND STAGE OF LABOUR AND THE RISK OF SUBSEQUENT PRETERM BIRTH: A RETROSPECTIVE COHORT STUDY

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BACKGROUND

Recently, a prolonged second stage of labour has been proposed as a risk factor for subsequent spontaneous preterm birth (sPTB) due to hypothesised effects of the foetal head on a dilated cervix.¹⁻²

OBJECTIVE

This study aimed to determine the relationship between length of second stage and the risk of subsequent sPTB in nulliparous women at a single institution.

METHODS

This was a retrospective cohort study of nulliparous women with a singleton term delivery at ≥ 37 weeks followed by a subsequent singleton delivery between 2014 and 2018. Women with risk factors for cervical insufficiency and fetal aneuploidy were excluded. The duration of the second stage was defined using RANZCOG guidelines as ≤ 2 hours and > 2 hours.³ The primary outcome was sPTB < 37 weeks. χ^2 and Fisher exact tests were used for categorical variables. Student T-test and logistic regression were used for continuous variables.

RESULTS

In the initial analysis, 307 women met inclusion criteria, with 72% (221/307) in the ≤ 2 -hour cohort and 28% (86/307) in the > 2 -hour cohort. The mean length of the second stage was 1.4 hours, ranging from 0-4.8 hours. Women in the > 2 -hour cohort were older (28.7 vs 30.1, $P < 0.05$) and more likely to have had an epidural (26.1% vs 72.3%, $P > 0.001$). There was no difference in smoking, diabetes or hypertension between the cohorts. There was no significant difference in subsequent sPTB (1.8% vs 4.7%, aOR 2.7, $P = 0.1$). Women with a prolonged second stage were more likely to have a subsequent elective caesarean section (5.9% vs 16.3%, $P < 0.01$).

Table 1. Maternal Demographics

	2nd Stage ≤ 2 hours (n=221)	2nd Stage > 2 hours (n=86)
Age (years)	28.7 \pm 5.12	30.1 \pm 4.65 *
IP interval (days)	687.4 \pm 217.9	702.6 \pm 196.7
BMI	23.7 \pm 5.3	24.6 \pm 5.1
Smoking	11/221 (5%)	1/86 (1.2%)
Diabetes	19/221 (8.6%)	7/86 (8.1%)
HTN	11/221 (5%)	6/86 (7%)
Epidural	57/218 (26.1%)	60/83 (72.3%) ***

Table 2. Outcomes in Subsequent Pregnancy

	2nd Stage ≤ 2 hours (n=221)	2nd Stage > 2 hours (n=86)
Delivery GA (weeks)	39.4 \pm 1.7	39.3 \pm 1.9
PTB < 37	6/221 (2.7%)	5/86 (5.8%)
sPTB < 37	4/221 (1.8%)	4/86 (4.7%)
Mode of delivery		
SVD	197/221 (89.1%)	64/86 (74.4%) **
IVD	5/221 (2.3%)	5/86 (5.8%)
Emergency CS	6/221 (2.7%)	3/86 (3.5%)
Elective CS	13/221 (5.9%)	14/86 (16.3%) **
Birth weight (grams)	3450	3536

CONCLUSION

1. A prolonged second stage of > 2 hours was not associated with an increased risk of subsequent sPTB. This was in accordance with one of two previous retrospective studies, with conflicting findings.
2. Further analysis will investigate specific cut offs in duration of the second stage, and the role of epidural anaesthesia on these outcomes.

REFERENCES

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