

Delayed Versus Immediate Pushing in the Second Stage in Term Nulliparous Singleton Women with Neuraxial Analgesia

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Background/Aim

Delayed pushing has been proposed to reduce maternal exhaustion by allowing uterine expulsive efforts to affect fetal descent in the absence of maternal efforts and prevent maternal morbidity such as caesarean delivery and severe perineal lacerations. The aim of this study is to evaluate whether delayed or immediate pushing increases adverse maternal outcomes including postpartum haemorrhage (PPH) and perineal trauma; assisted delivery or caesarean to aid counselling of patients and management of second stage.

Method

This retrospective study observes maternal outcomes of delayed (DP) versus immediate pushing (IP) in uncomplicated nulliparous women who delivered at term (≥ 37 weeks) with a neuraxial block during a 6 month period (January 2021 to July 2021) at a tertiary hospital. Exclusion criteria included women with had an IUFD/stillbirth, if decision for CS was made at 5cm but found to be fully dilated in OT and proceed with CS; and births with absent documentation for second stage. Women were designated as having delayed or early pushing based on time difference in between full dilation and the time that active pushing was initiated with DP defined as active pushing after 50mins.



Table 1. Baseline overall cohort characteristics

	Mean	Range/% of total births
Age	29.5	15-44
Ethnicity		
Caucasian	318	66.3%
Non-caucasian	155	32.2%
ATSI	7	1.5%
BMI	24.2	16.7-46.9
Gestation (weeks)	39.6	37.0-42.3
Birthweight (grams)	3394g	2030-4800g
Pregnancy complications		
HTN/PET	37	7.7%
GDM	37	7.7%
Known GBS	30	6.3%
APH	17	3.5%
Onset of labour		
Spontaneous	30	6.3%
Spontaneous with augmentation	231	48.1%
Induced	219	45.6%
Length of 1 st stage (mins)		
Total	410	
Length of 2 nd stage (mins)		
Total	103	3-416
Passive	48.1	0-200
Active	49.5	0-221

Results

This study included 480 nulliparous women with neuraxial analgesia at term (DP = 262; IP= 218). Women who had DP experienced a longer total second stage by average 85.1 mins and a longer active stage by average of 31.2 mins ($P<0.01$)

There was no difference in mode of delivery (SVD, instrumental or caesarean) with DP or IP (SVD $p=0.171$; Assisted delivery/instrumental $p=0.707$; caesarean $p=0.138$).

Between the DP and IP groups there was no difference in PPH ($p=0.241$), maternal pyrexia ($p=0.46$) or urinary retention ($p=0.084$.) There was however a trend to increase in OASI with IP ($p=0.058$).

This study showed there is no statistically significant difference in neonatal outcomes with immediate or delayed pushing.

Conclusion

Mode of delivery and rates of maternal pyrexia, urinary retention and PPH did not differ between IP and DP. Delayed pushing did however increase the total length of second stage and active second stage significantly. There was however a trend to increase with OASIS with immediately pushing. These findings may help inform decisions about the approach to management of the second stage and aid how we counsel patients in the second stage.

Parameter	Delayed Pushing (>50min) (N=262) (53.33%)	Range/%	Immediate Pushing (N=218) (45.42%)	Range/%	P values
Length of 2nd stage (mins)					
Total	143	28-416	57.9	3-189	
Passive	75.2	51-200	16.4	0-48	
Active	73	0-221	41.8	0-172	<0.01
Mode of delivery					
EBL (ml)	427		438		0.195
SVD	121	47.30%	117	53.70%	0.171
Instrumental assisted (vacuum/forceps)	105	26.60%	83	28.90%	0.707
Caesarean	33	12.90%	18	17.40%	0.138
Perineum					
Episiotomy	132	51.60%	113	51.80%	0.946
OASIS	4	1.60%	10	4.70%	0.058
Other (inc first, second, labial, anything outside of above)	108	42.40%	94	43.10%	0.7
Peripartum complications					
PPH (>500-999)	26	10.20%	28	12.80%	0.241
PPH (1000-1500ml)	19	7.40%	11	5.00%	
PPH (>1500ml)	6	2.30%	11	5.00%	
Pyrexia/maternal temp	26	10.10%	16	7.30%	0.46
Urinary retention	17	6.60%	6	2.80%	0.084
Neonatal Outcomes					
cord gas pH (<7.15)	33/167	19.80%	37	17%	0.134
SCN admission	77	30.10%	64	29.40%	0.842
Resus at birth	48	18.80%	35	16.10%	
APGAR (5mins) <7	4	1.60%	8	3.70%	0.197

Table 2. Outcomes with delayed vs immediate pushing.