



DOES INDUCTION OF LABOUR HAVE IMPACT ON UTERINE CONTRACTILE ACTIVITY?

Hautakangas Tuija, MD, PhD¹; Uotila Jukka, MD, PhD²; Palomäki Outi, MD, PhD²

¹ Department of Obstetrics and Gynaecology, Delivery Ward, The wellbeing services county of Central Finland, Jyväskylä, Finland
² Department of Obstetrics and Gynaecology, Tampere University Hospital and Faculty of Medicine and Health Technology, Tampere University, Finland

Objective: To investigate the impact of induction of labour on uterine contractile activity

Material and methods

- ❖ Cohort from RCT: nulliparas (n=369), TOLACs (n=194) or parous women having oxytocin augmentation (n=123)
- ❖ 686 singleton pregnancies; 59 % induction of labour, 41% spontaneous onset of labour
- ❖ Gestational age ≥37 w, cephalic position
- ❖ Intrauterine tocodynamometry during labour
- ❖ Uterine contractile activity assessed as intrauterine pressure (MVUs), frequency and basal tone during four hours before vaginal delivery or decision of caesarean section

Results

- ❖ There was no difference in uterine contractile activity between induced or spontaneous-onset labours (Table 1).
- ❖ The use of oxytocin was more frequent, if labour was induced (61% vs 39 %, $P<0.001$) and doses were higher.
- ❖ Parturients having previous vaginal delivery (n=152) had lower intrauterine pressure than those without previous vaginal delivery (n=534) (median 170MVUs [IQR 120-210] vs 200 MVUs [157-250]; $P<0.001$).
- ❖ Caesarean section was more common among nulliparas with induction of labour (IOL) when compared to spontaneous onset of labour, OR 2.38 (1.43-3.96); $P<0.001$ (Figure 1).
- ❖ Among whole study group IOL did not influence caesarean section rate (23.0% vs 18.5%, $P=0.160$).
- ❖ Parturients having IOL had higher BMI (26.2 vs 23.8 kg/m²; $P<0.001$) and there was no difference in maternal age (29.9 vs 29.1 years; $P=0.070$).

Conclusions

Induction of labor does not influence on uterine contractile activity, but the need of oxytocin is more frequent and doses are higher

	Induction of labour (n=405)		Spontaneous onset of labour (n=281)		
	median	Q ₁ -Q ₃	median	Q ₁ -Q ₃	P- value
Intrauterine pressure (MVUs) Highest	200	150-250	200	150-250	0.715
Spontaneous vaginal delivery	197	140-250	190	140-240	0.816
Vacuum extraction	230	170-300	215	173-280	0.603
Caesarean section	190	130-227	182	136-230	0.864
Nullipara n=369	210	160-260	190	150-250	0.252
Frequency/10 minutes, maximum	4.5	4.0-5.0	5.0	4.0-5.0	0.069
Basal tonus of uterine muscle, mmHg	20	20-25	20	20-30	0.261
Use of oxytocin					
Maximum dose, mIU/min	12.5	7.5-15.0	7.5	5.0-15.0	<0.001
Total consumption, IU	3.0	2.0-5.0	2.0	0.5-3.5	<0.001

Table 1. Uterine contractile activity and the use of oxytocin during the last four hours of labour according to onset of labour.

