Does the mechanism of cervical ripening technique for induction of labour in women with Obesity class III impact the mode of birth

Khin NWE , Andrew BREWIN, Lauren MEGAW., Obstetric department, King Edward Memorial Hospital
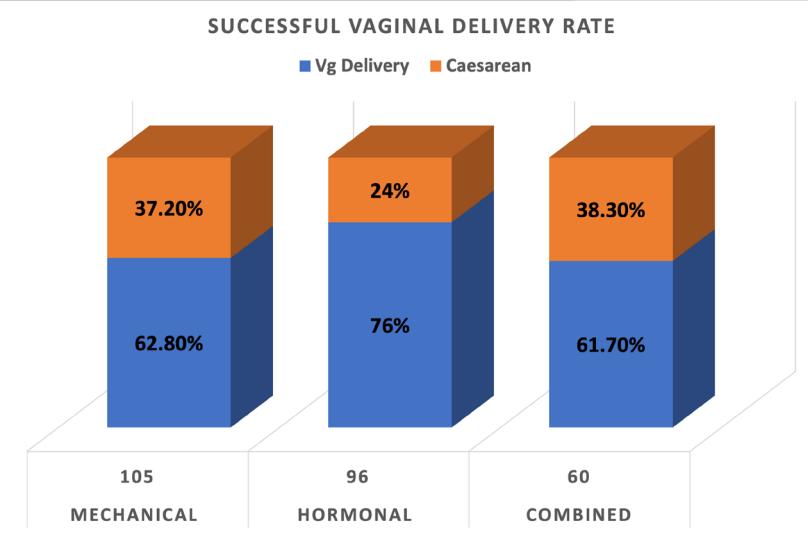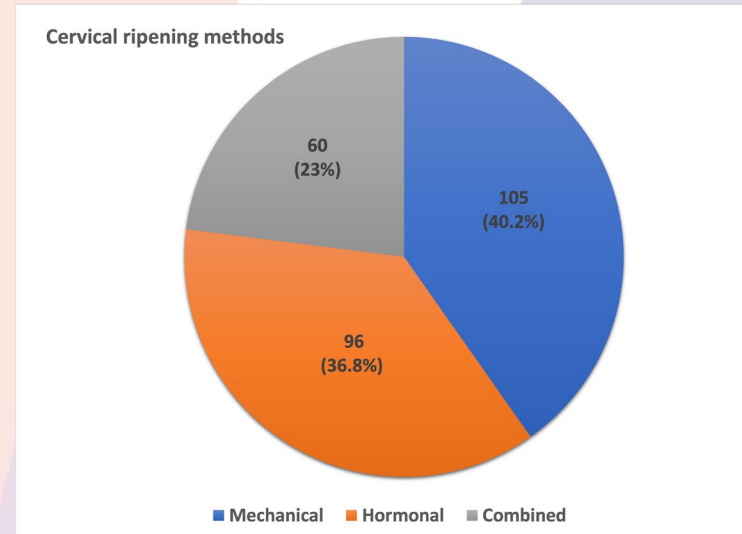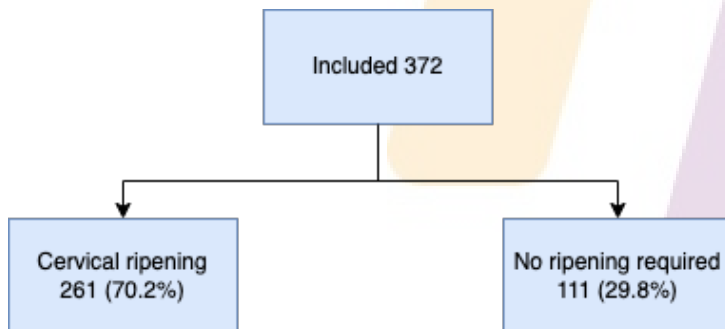
Background
- Unsuccessful induction of labour (IOL) has higher rates of complications than vaginal delivery or planned Caesarean Section (CS) [45.4% vs 18.2% vs 24.4%] (1).
- Obesity and the need for cervical ripening are predictors of primary CS in nulliparous women (1,2).

Aim - To investigate if method of cervical ripening impacted on rate of vaginal delivery for women with class-III obesity (BMI >40).

Methods
- A retrospective observational cohort study of women with BMI >40 who had labour induced at KEMH over a 13-month period (October 2019 to October 2020).
- The cohort was classified by 'method of ripening' into no ripening required, mechanical, hormonal (PGE2) or combined ripening.
- The primary considered outcome was rate of vaginal delivery between ripening methods.

Included 372

Cervical ripening 261 (70.2%)

No ripening required 111 (29.8%)

Cervical ripening methods

- 105 (40.2%) Mechanical
- 96 (36.8%) Hormonal
- 60 (23%) Combined

SUCCESSFUL VAGINAL DELIVERY RATE

- Vg Delivery
- Caesarean

	MECHANICAL (105)	HORMONAL (96)	COMBINED (60)
Caesarean	37.20%	24%	38.30%
Vg Delivery	62.80%	76%	61.70%

Results
- 372 women with live singleton pregnancies underwent IOL, 261 required cervical ripening.
- 105 (40.2%) had mechanical ripening, 96 (36.8%) had hormonal ripening and 60 (23%) had combined ripening.
- Overall, 176 (67.4%) women delivered vaginally with rates of vaginal delivery of 62.8%, 76% and 61.7 % between ripening methods respectively (chi square 0.02). When adjusted for parity and reason for IOL, rate of vaginal delivery were not significantly different. There was no difference in category of Caesarean-section, or amount of blood loss.

Conclusion
Amongst our cohort, the method of cervical ripening appears to have similar efficacy in achieving vaginal delivery with no significant difference in indication for caesarean-section or blood loss.

References:
1. Subramaniam A, Jauk VC, Goss AR, Alvarez MD, Reese C, Edwards RK. Mode of delivery in women with class III obesity: planned cesarean compared with induction of labor. Am J Obstet Gynecol. 2014 Dec;211(6):700.e1-9. doi: 10.1016/j.ajog.2014.06.045. Epub 2014 Jun 20. PMID: 24956550.

2. Burke N, Burke G, Breathnach F, McAuliffe F, Morrison JJ, Turner M, Dornan S, Higgins JR, Cotter A, Geary M, McParland P, Daly S, Cody F, Dicker P, Tully E, Malone FD; Perinatal Ireland Research Consortium. Prediction of cesarean delivery in the term nulliparous woman: results from the prospective, multicenter Genesis study. Am J Obstet Gynecol. 2017 Jun;216(6):598.e1-598.e11. doi: 10.1016/j.ajog.2017.02.017. Epub 2017 Feb 16. PMID: 28213060.