

A comparison of vaginal prostaglandins and balloon catheters for cervical ripening prior to labor induction

PRESENTER:
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BACKGROUND:

Induction of labor is one of the most common obstetric interventions, and half of all inductions require cervical ripening. Trials comparing hormonal (vaginal prostaglandins) and mechanical (balloon catheter) methods are often underpowered for safety outcomes. We aim to overcome this issue and investigate these outcomes through use of individual patient data meta-analysis.

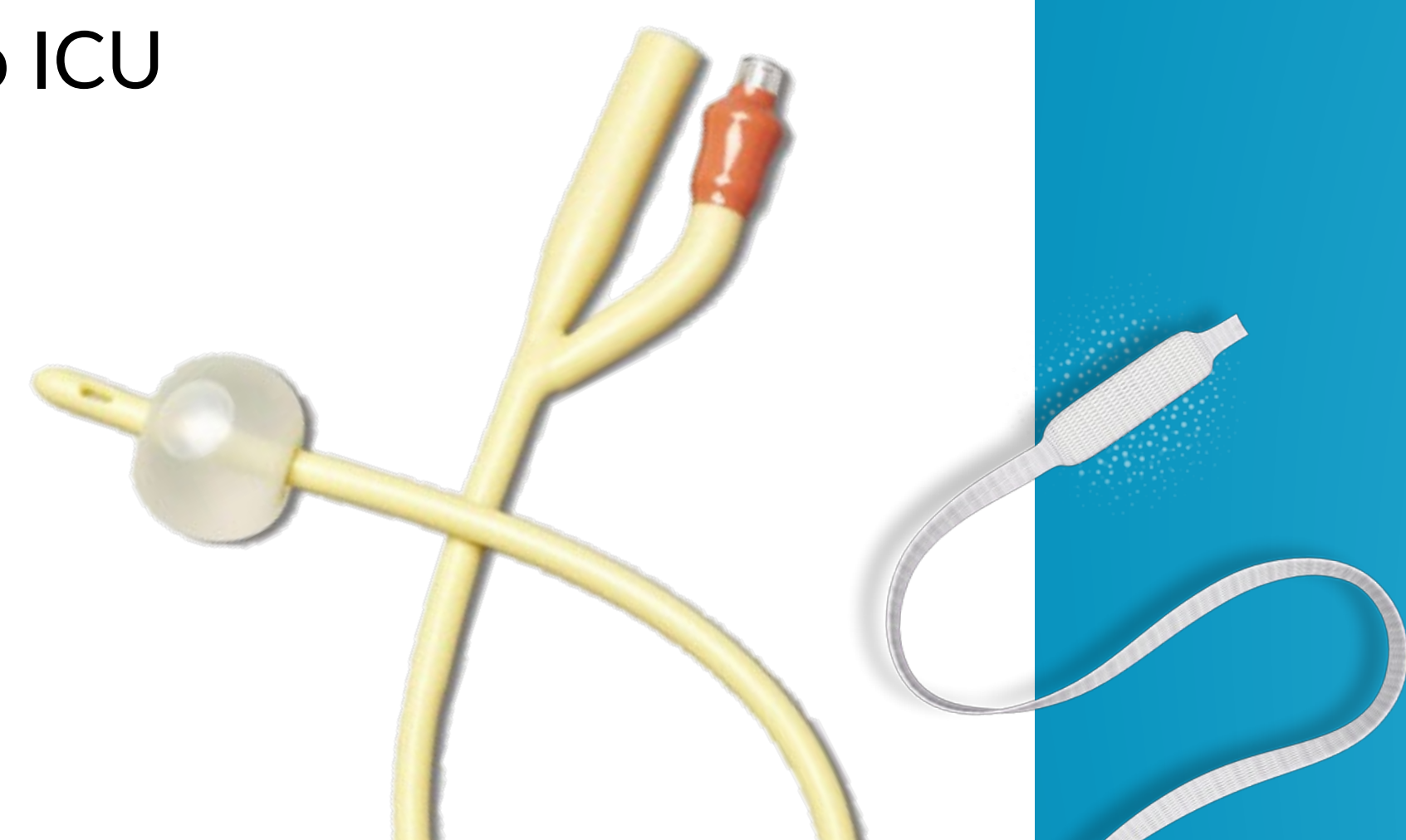
METHODS

Individual participant data was sought from eligible RCTs comparing vaginal prostaglandins and balloon catheters.

Data was available for analysis from 12 studies including 5460 participants.

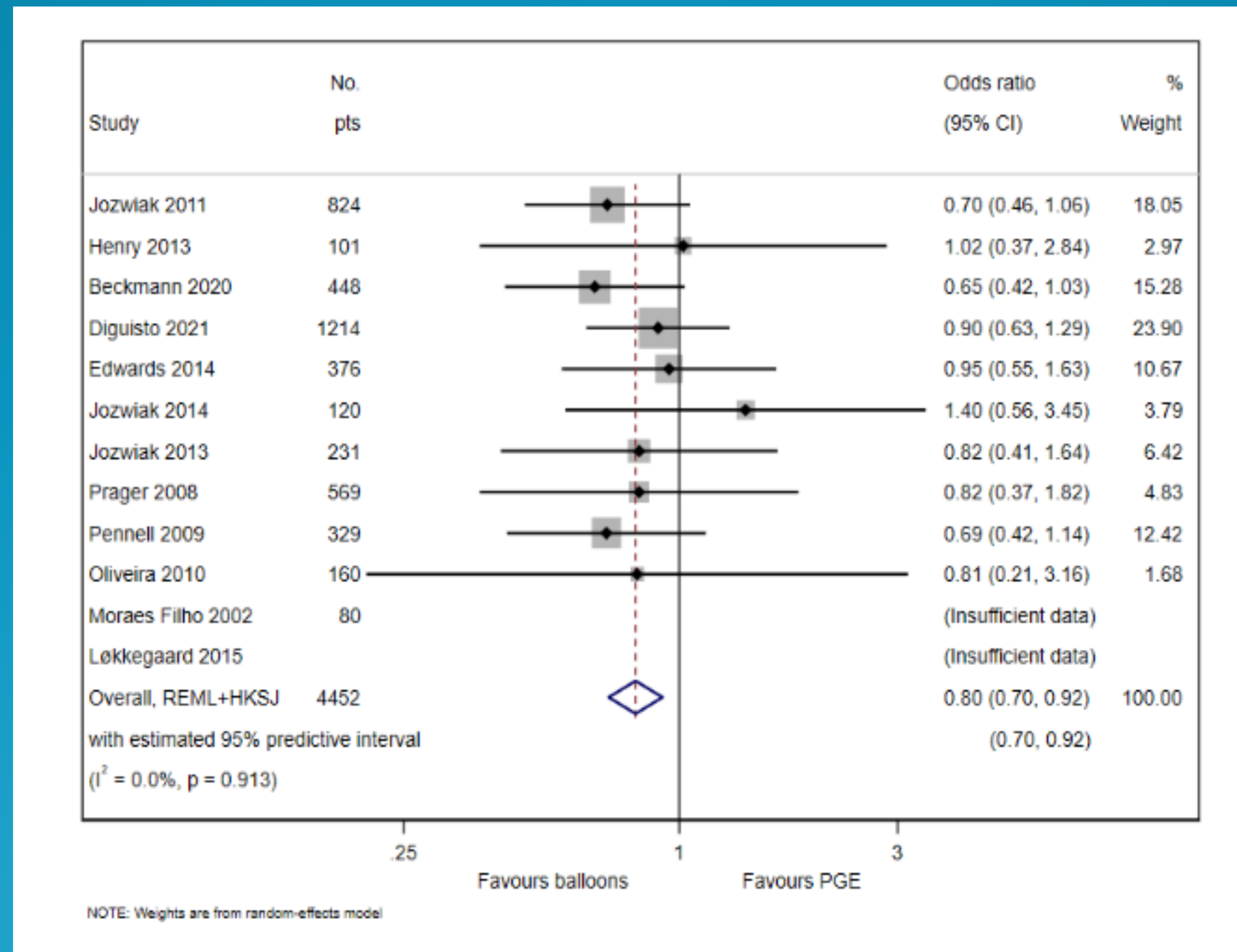
Primary Outcomes:

- Efficacy
 - Rate of Caesarean section
 - Indication for Caesarean section
- Perinatal safety (composite)
 - Apgar <7 at 5 mins
 - Umbilical cord arterial pH <7.1
 - Admission to NICU
 - Seizures
- Maternal safety (composite)
 - Admission to ICU
 - Infection
 - Severe PPH
 - Death



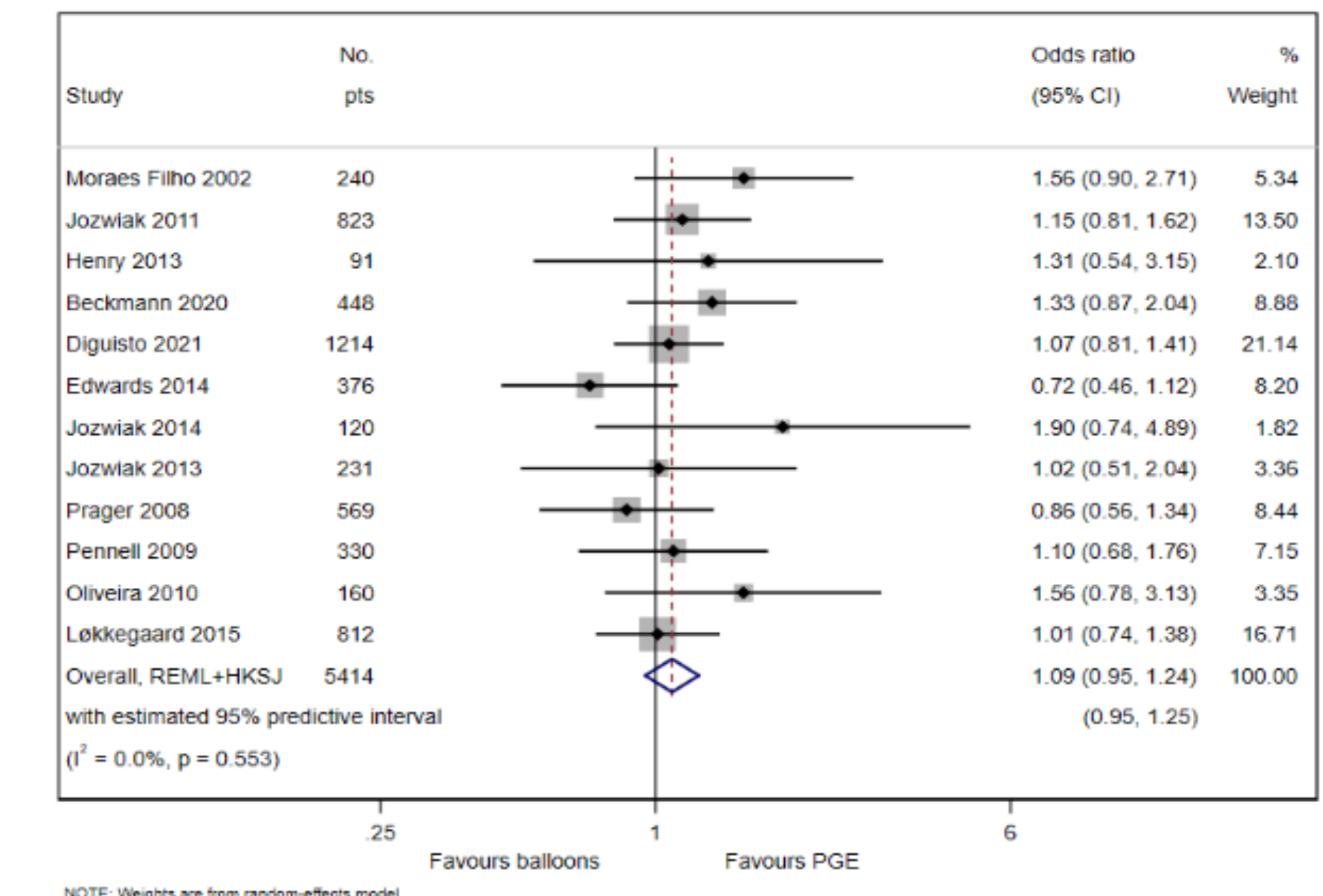
Balloon cervical ripening is safer for neonates as compared to vaginal prostaglandins, with comparable rates of Caesarean sections

Rates of composite neonatal adverse outcomes for vaginal prostaglandins and balloon catheters



RESULTS

- Caesarean sections rates are comparable between both methods of cervical ripening
- sOR 1.09 (95% CI 0.95 - 1.24)



- Fewer instrumental births for fetal distress with balloon catheter
 - aOR 1.20 (95% CI 0.91 - 1.58)
- Uterine hyperstimulation was reduced with use of balloon catheter
 - sHR 0.35 (0.19 - 0.64)
- Balloon catheter significantly reduced chance of arterial cord pH <7.10
 - aOR 0.72 (95% CI 0.53 - 0.98)
- No significant difference was identified for composite adverse maternal outcomes
 - aOR 1.02 (95% CI 0.89 - 1.18)

CONCLUSION

- Vaginal prostaglandins result in a similar rate of Caesarean sections when compared to balloon catheters
- However they are associated with significantly higher chances of adverse neonatal outcomes, including arterial cord pH <7.1
- Balloon catheters reduced the chance of hyperstimulation or instrumental birth for foetal distress

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