Efficacy and Safety of Vaginal Misoprostol Compared to Vaginal Dinoprostone for Induction of Labour: A Systematic Review

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INTRODUCTION

In 2022-23, 33% of labours were induced in England. Dinoprostone is commonly used, but there is increasing evidence that Misoprostol is a good alternative. This study aimed to compare the efficacy and safety of vaginal Misoprostol and vaginal Dinoprostone. We used duration of induction to assess efficacy because people who have been induced commonly describe induction as a lengthy process, impacting the patient experience.

METHODOLOGY

Electronic databases were searched for randomised trials comparing singleton, term inductions with Dinoprostone or Misoprostol. Primary outcome was vaginal delivery within 24 hours (VD24). Secondary outcomes included mode of delivery, induction to delivery interval, oxytocin augmentation, uterine hyperstimulation, fetal distress and adverse maternal or neonatal outcomes. Data extraction used a standardised, proforma including a Cochrane Risk of Bias tool. A random effects meta-analysis was performed using R.

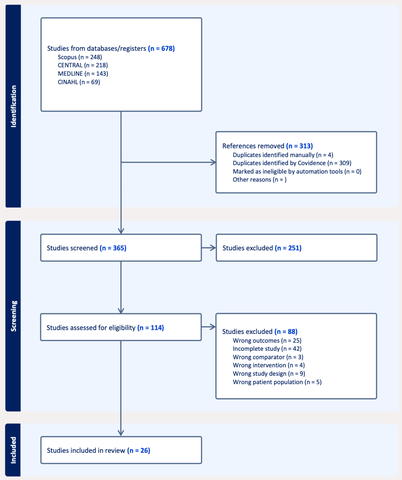


Figure 1- PRISMA diagram of search strategy

RESULTS

From 678 records, 26 papers reported 4,588 women given vaginal Misoprostol and 4,579 given vaginal Dinoprostone (PRISMA diagram Figure 1). Risk of bias was relatively low. Overall, patients given Misoprostol were 46% (OR 1.46 95% CI 1.16; 1.83) more likely to achieve VD24 compared with those given Dinoprostone, although heterogeneity is high, shown in Figure 2. The rates of caesarean section, instrumental intervention, fetal distress and adverse maternal or neonatal outcomes were comparable. Additionally, in the Misoprostol group, fewer patients required augmentation with oxytocin (OR 0.48 95% CI 0.36; 0.64) as shown in Figure 3.

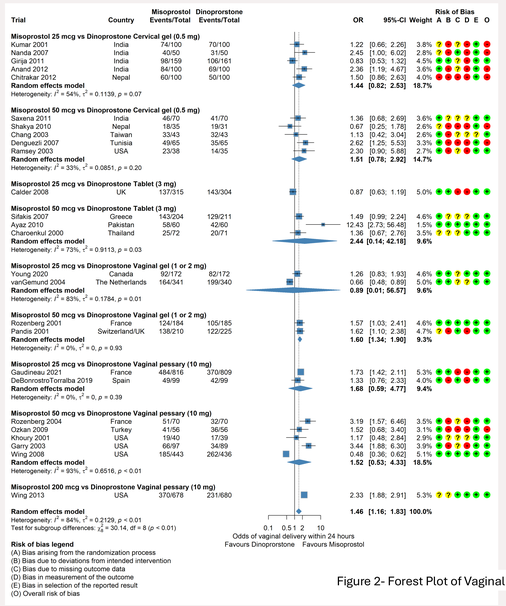


Figure 2- Forest Plot of Vaginal Delivery in 24 Hours

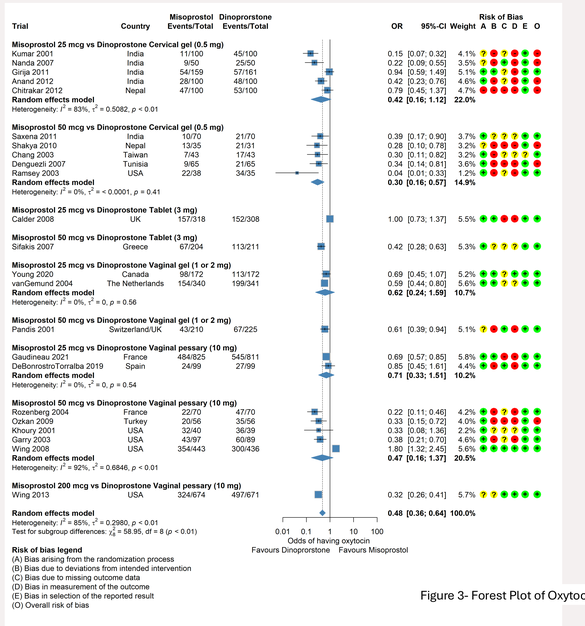


Figure 3- Forest Plot of Oxytocin Use

CONCLUSION

Vaginal misoprostol seems to improve the rate of VD24 when compared to Dinoprostone while remaining a safe option. We encourage consideration of vaginal Misoprostol as a first line agent for labour induction. A 2021 review commented on the efficacy of oral Misoprostol, and we believe that our review adds to the discussion by comparing the vaginal preparations and by having an efficacy focus on the duration of induction.

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