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Date: 17 Jul 2017

Sources Searched: Medline, Embase, NICE Evidence Search, Electronic Medicines Compendium, DynaMed Plus

Timing of Removal of Propess Pessaries

[See full search strategy](#)

Summary:

[NICE recommend](#) one cycle of vaginal PGE2 controlled-release pessary to be given over 24 hours to be thereafter removed irrespective of whether cervical ripening has been achieved.

[PROPESS](#) should be removed least 30 minutes prior to starting an intravenous infusion of oxytocin, due to an increased risk of hyperstimulation. A second dose of [PROPESS](#) is not currently recommended, as this has not been adequately studied.

Despite extensive studies carried out over the past 30 years to determine the most effective ways of inducing labour with vaginal PGE2, uncertainties still remain about how best to apply these agents in terms of their dosage and timing.

Sources:

National Institute for Health and Clinical Excellence (2008). Induction of Labour London. NICE CG70 URL: <https://www.nice.org.uk/guidance/cg70/resources/inducing-labour-pdf-975621704389>

Electronic Medicines Compendium (Revised Jan 2017) Propess 10mg vaginal delivery system
URL: <https://www.medicines.org.uk/EMC/medicine/16898/SPC/Propess+10mg+vaginal+delivery+system/>

1. Second dose of PGE2 vaginal insert versus Foley transcervical balloon for induction of labor after failure of cervical ripening with PGE2 vaginal insert

Author(s): Mohr-Sasson A.; Schiff E.; Sindel O.; Suday R.R.; Kalter-Farber A.; Mashiach R.; Yinon Y.; Sivan E.; Mazaki-Tovi S.; Dulitzkil M.

Source: Journal of Maternal-Fetal and Neonatal Medicine; Sep 2017; vol. 30 (no. 17); p. 2074-2077

Publication Date: Sep 2017

Publication Type(s): Article

Abstract: Purpose: To determine the success rate of induction of labor (IOL) using Foley transcervical balloon (FTB) versus prostaglandin E2 (PGE2) vaginal insert, following failure of cervical ripening with PGE2 vaginal insert. Materials and methods: A retrospective cohort study of all pregnant women admitted for IOL with either FTB or PGE2 vaginal insert. Either second dose of PGE2 vaginal insert or FTB was used as a second line treatment after failure (not giving birth in 24 h from insertion) of first PGE2 vaginal insert. Results: During the study period, 1162 women were admitted for IOL. Failure was reported in 322/852 (37.8%) in the FTB versus 162/310 (52.2%) in the PGE2 group (p 2 as first line who did not deliver after 24 h, 14 had spontaneous rupture of membranes, 15 underwent stripping and 42 were in still in active labor. The remainder were allocated to either second trial of PGE2 treatment (n = 58) or FTB (n = 33) with failure rate higher in the PGE2 group, not statistically significant (p = 0.23). Conclusion: IOL with FTB was not superior to PGE2 vaginal insert for IOL following failure of cervical ripening with PGE2 vaginal insert. Copyright © 2016 Informa UK Limited, trading as Taylor & Francis Group.

Database: EMBASE

2. Failure of cervical ripening following PGE2 vaginal insert-what to do next?

Author(s): Mohr-Sasson A.; Sindel O.; Rahamim Suday R.; Kalter-Farber A.; Mashiach R.; Schiff E.; Yinon Y.; Dulitzki M.; Sivan E.L.; Mazaki-Tovi S.

Source: Journal of Maternal-Fetal and Neonatal Medicine; 2016; vol. 29 ; p. 143-144

Publication Date: 2016

Publication Type(s): Conference Abstract

Abstract: Introduction: Failure of cervical ripening following sustained-release PGE2 vaginal insert is a common clinical challenge. Yet, what is the optimum method of induction of labor after failure of PGE2 is uncertain. The aim of this study was to determine success rate of induction of labor using Foley transcervical balloon (FTB) versus second treatment with PGE2 vaginal insert, following failure of cervical ripening with vaginal insert. Materials and methods: A retrospective cohort study of all pregnant women admitted to a single tertiary care center between June 2012 to October 2014 for induction of labor. Inclusion criteria included gestational age > 24 weeks, cephalic presentation, intact membranes, and an unfavorable cervix (Bishop score < 6). Foley catheter was left for 12 hours if not expelled spontaneously. PGE2 was left for 24 hours if there was no commencement of labor. Successful induction is defined as a vaginal delivery within 24 to 48 hours of induction of labor. Second line treatment after failure of first PGE2 vaginal insert was left for physician discretion. Non-parametric statistics, as well as regression were used for analysis. Clinical cases and summary results: During the study period 1162 women were admitted for induction of labor with either FTB (852, 73.3%) or PGE2 vaginal insert (310 26.7%). Failure (non-delivered after 24 hours) was reported in 322 (37.8%) in the FTB versus 162 (52.2%) in the PGE2 group (p<0.001). Regression analysis revealed that earlier gestational week (p=0.04) and the use of PGE2 (p=0.001) were associated with higher failure rate. Among 162 patients treated with PGE2 as first line and did not deliver after 24 hours, 14 had spontaneous rupture of membranes, 15 had stripping and 42 were in still in active labor however didn't yet deliver. The remainder 91(56%) patients with PGE2 failure, were allocated

to either second trial of PGE2 treatment (n= 58, 63.7%) or FTB (n=33, 36.3%). Failure rate was higher in the PGE2 (43/58, 74%) than in the FTB group (20/ 33, 60.6%) however these findings were not statistically significant (p=0.23). There was a trend towards shorter insertion-to-delivery interval with FTB compared to PGE2 (p=0.07). Conclusion: Despite a statistical trend, induction of labor with Foley transcervical balloon was not superior to second dose of PGE2 vaginal insert for induction of labor following failure of cervical ripening with PGE2 vaginal insert. This finding may be helpful for patients and physicians alike. (Figure Presented).

Database: EMBASE

3. Repeated sustained release dinoprostone vaginal inserts in women with unfavorable cervix may increase the risk of postpartum hemorrhage: preliminary results.

Author(s): Hannigsberg, Jacob; Dupré, Pierre-François; Carpentier, Marc; Merviel, Philippe; Collet, Michel; Dessolle, Lionel

Source: European journal of obstetrics, gynecology, and reproductive biology; Jul 2016; vol. 202 ; p. 81-82

Publication Date: Jul 2016

Publication Type(s): Letter

PubMedID: 27196084

Database: Medline

4. Vaginal Dinoprostone Versus Intravenous Oxytocin for Labor Induction in Patients Not Responsive to a First Dose of Dinoprostone: A Randomized Prospective Study.

Author(s): Antonazzo, Patrizio; Laoreti, Arianna; Personeni, Carlo; Grossi, Elena; Martinelli, Anna; Cetin, Irene

Source: Reproductive sciences (Thousand Oaks, Calif.); Jun 2016; vol. 23 (no. 6); p. 779-784

Publication Date: Jun 2016

Publication Type(s): Journal Article

PubMedID: 26626794

Abstract:OBJECTIVETo evaluate the efficacy of 2 different regimens for labor induction in patients with unfavorable cervix not responsive to a first dose of dinoprostone vaginal insert.METHODSBetween November, 2011 and June, 2014, 338 patients underwent induction of labor. After standard 24 hours treatment, 94 singleton term pregnancies remained with a Bishop score ≤ 6 and were randomized into 2 different regimens: repeated vaginal dinoprostone (group A, n = 47) or intravenous oxytocin (group B, n = 47). Primary outcome was vaginal delivery, and the secondary outcomes were interval between labor induction and delivery and operative delivery rates.RESULTSVaginal deliveries were significantly higher (group A: 26/47 (55.3%) and group B 16/47 (34.0%), $P < .05$), and cesarean sections were significantly lower (group A 21/47 (44.7%) and group B 31/47 (66%), $P < .05$) in patients who received a double dose of dinoprostone. The intervals between labor induction and onset of labor and between labor induction and delivery were lower in the group treated with oxytocin. Neonatal outcomes were similar in the 2 groups.CONCLUSIONA second dinoprostone vaginal insert is an effective and safe choice for patients with unfavorable cervix not responsive to a first 24 hours administration of dinoprostone for cervical ripening, and its use is associated with lower cesarean section rates.

Database: Medline

5. Unfavourable cervix post dinoprostone pessary: What next?

Author(s): Dalal P.; Kanthi Pydah L.; Sengupta N.

Source: BJOG: An International Journal of Obstetrics and Gynaecology; Apr 2016; vol. 123 ; p. 95

Publication Date: Apr 2016

Publication Type(s): Conference Abstract

Available in full text at [BJOG: An International Journal of Obstetrics and Gynaecology](#) - from John Wiley and Sons

Abstract:Introduction The aim of our study was to see the outcome of induction of labour (IOL) when more than one Dinoprostone pessary (Propess) was needed. The National Institutes for Health and Care Excellence (NICE) guideline suggests one cycle of 10 mg vaginal prostaglandin E2 controlled-release pessary for IOL over 24 hours and makes no further suggestion if the cervix remains unfavourable post pessary. Methods A retrospective audit was conducted over a period of 3 months in women who were induced with more than one Propess and data were collected followed by literature search using Embase, Medline and Pubmed. Results A total of 28 women underwent induction with more than one Propess over a period of 3 months guided by Bishop score <7. Among these women, 22/28 (78.6%) were nulliparous and 1/28 (3.6%) had a history of cervical surgery. Success rate of second Propess was 89.2% in achieving artificial rupture of membranes (ARM). Delivery occurred within 72 hours of commencing induction in 67.8% of women. Eighteen of 28 (64.3%) achieved vaginal delivery and 10/28 (35.7%) were delivered by caesarean section, out of whom 3/28 (10.7%) were for failure of induction. There was no significant difference in Bishop score before the second pessary for women who achieved active labour compared with those who failed to labour. One woman of 28 (3.6%) had hyperstimulation. Complication of PPH was noted in 8/28 (28.6%) including major PPH of ≤ 1.5 litres in 10.7% cases. Conclusion Larger scale studies are required to confirm the role and safety of use of more than one dinoprostone pessary so as to reduce the incidence of lower segment caesarean section for 'failed induction'.

Database: EMBASE

6. Concurrent oxytocin in women needing second dinoprostone

Author(s): Sher Z.; Ashraf M.; Irum N.; Bashir S.; Khaliq N.; Yaqub S.

Source: Journal of the College of Physicians and Surgeons Pakistan; 2015; vol. 25 (no. 5); p. 350-353

Publication Date: 2015

Publication Type(s): Article

PubMedID: 26008661

Available in full text at [Journal of the College of Physicians and Surgeons Pakistan](#) - from Free Access Content

Abstract:Objective: To reduce average induction delivery interval in patients with poor Bishop score without compromising fetomaternal outcome (in terms of birth weight, NICU admission, maternal complications and mode of delivery). Study Design: A descriptive study. Place and Duration of Study: Department of Obstetrics and Gynaecology, Pakistan Atomic Energy Commission (PAEC) General Hospital, Islamabad, from February to December 2009. Methodology: All patients needing 2nd dinoprostone pessary for induction of labour were included in the study. Patients with gestation below 37 weeks, those with intra-uterine growth restriction, bad obstetric history, previous uterine scar and patients in whom Bishop score improved for amniotomy after 1st dinoprostone pessary, were excluded. Data was collected on a special proforma where all variables were defined. Results: Out of 90 patients, 44 (48.8%) had spontaneous vertex deliveries and 12 (13.3%) had instrumental deliveries so a total vaginal deliveries occurred in 56 (62.2%) patients. Thirty four patients (37.8%)

had emergency caesarean sections. Main indication for cesarean was failure to progress in 1st stage of labour followed by fetal distress. There were 3 failed inductions. Only 2 patients had hyperstimulation. NICU admission were 8 and all babies were discharged healthy from nursery with no case of early neonatal death. Conclusion: Concurrent oxytocin with 2nd dinoprostone in patients with poor Bishop scores (initial scores 2 and 3) resulted in more vaginal birth and comparatively shorter induction delivery time with almost negligible fetomaternal complications.

Database: EMBASE

7. Impact of prolonged dinoprostone cervical ripening on the rate of artificial induction of labor: A prospective study of 330 patients

Author(s): Denoual-Ziad C.; Dreyfus M.; Benoist G.; Aicardi-Nicolas S.; Creveuil C.; Gaillard C.

Source: Journal of Obstetrics and Gynaecology Research; Mar 2015; vol. 41 (no. 3); p. 370-376

Publication Date: Mar 2015

Publication Type(s): Article

PubMedID: 25331791

Available in full text at [Journal of Obstetrics and Gynaecology Research](#) - from John Wiley and Sons

Abstract:Abstract Aim The aim of this study was to evaluate two regimens of administration of sustained-release dinoprostone on the need for oxytocin induction of labor. Material and Methods We carried out an open prospective study comparing labor, maternal and neonatal outcomes after 12 h of prostaglandin cervical ripening insert versus 24 h of prostaglandin cervical ripening insert in 284 patients (142 ripenings at 12 h [P12 group] and 142 ripenings at 24 h [P24 group]). Results The two groups were demographically similar. There was a significant difference in the need for artificial rupture of membranes/oxytocin induction of labor between the groups (49.3% for the P12 group vs 38% for the P24 group, $P = 0.03$). The delay between the beginning of ripening and delivery was significantly decreased in the P12 group, but the duration of active labor (6.6 h), the dose of oxytocics used (1326 UI), the rate of cesarean section, the rate of uterine hyperstimulation, the rates of hemorrhaging from delivery, the neonatal state and the experience of induction were similar in the two groups. Conclusion This study allows us to show for the first time that sustained-release of dinoprostone leads to spontaneous induction of labor without increasing the obstetrical risk in a majority of patients. Copyright © 2014 The Authors.

Database: EMBASE

8 The role of a second ripening agent for an unfavorable cervix after initial single cervical ripening treatment

Author(s): Toner L.; Seagle B.-L.; Tanamai V.; Luo G.; Shahabi S.; Kim M.; Cleason D.

Source: American Journal of Obstetrics and Gynecology; Jan 2015; vol. 212 (no. 1)

Publication Date: Jan 2015

Publication Type(s): Conference Abstract

Abstract:OBJECTIVE: Induction of labor (IOL) uses a cervical ripening agent or oxytocin based on Bishop score (BS). After a cervical ripening agent has been administered, if the BS is still low, there are currently no guidelines and little published on using a second ripening agent. STUDY DESIGN: An IRB-approved retrospective review of 465 patients admitted from 1/1/2012-12/31/13 for induction of labor, and administered a cervical ripening agent (cervidil, misoprostol, or cook balloon). Sixty patients were excluded (multiple gestation, preterm, Intrauterine fetal demise, or incomplete BS). The remaining patients were divided into three groups; those who received a second cervical ripening agent, oxytocin administration, or no further intervention. A modified BS published by ACOG in 2011 was used, which defines a favorable score of ≥ 5 . RESULTS: Cesarean section (c/s) rate was 33.58% (136/405) overall. The second ripening agent group had a 48% c/s rate (45/93). Alternatively, those patients that received oxytocin with an unfavorable cervix, or ≥ 5 , after the first agent, had a c/s rate of 31% (45/145), and 29% (25/86) with a favorable cervix, or modified BS ≥ 5 . Secondary outcomes include time from administration of first agent to fully dilated, and second stage time. Length of Stay (LOS), peripartum complications, and patient satisfaction were also reviewed. CONCLUSION: IOL is an important management protocol in Obstetrics, in particular its impact on c/s rate. Here we showed a decreased rate from 48% to 31% ($p=0.07$), when oxytocin is administered after a single ripening agent, despite BS. This suggests that the use of a second ripening agent does not decrease the rate of c/s. According to our results, patients with a low BS would benefit more from oxytocin administration than a second agent to achieve vaginal delivery. A larger cohort of patients may be required to show statistical significance, and is currently being examined, while ultimately, the best study would be prospective in nature.

Database: EMBASE

9. The effect of extending dinoprostone pessary placement from 12 to 24 h on the need for further mechanical cervical ripening.

Author(s): Lusink, Vanessa; Usher, Leila; Day, Tania

Source: The Australian & New Zealand journal of obstetrics & gynaecology; Dec 2014; vol. 54 (no. 6); p. 586-588

Publication Date: Dec 2014

Publication Type(s): Journal Article

PubMedID: 24862875

Available in full text at [Australian and New Zealand Journal of Obstetrics and Gynaecology](#) - from John Wiley and Sons

Abstract:Dinoprostone pessaries (DP) are widely used for cervical ripening, and while licensed for 12-h administration in Australia, 24-h use is also reported. We examined 396 consecutive women before and after a protocol change from 12-h to 24-h DP use to determine whether extended DP use decreases the need for additional mechanical cervical ripening. No significant difference in cervical ripening balloon (CRB) requirement or vaginal birth rates was detected, showing that prolonged DP use does not reduce subsequent use of CRB.

Database: Medlin

10. A Review of outcomes following 3 vaginal prostaglandin (PGE2) pessaries for Induction of Labour

Author(s): Fisher A.L.; Mahadasu S.; Ayuk P.

Source: Archives of Disease in Childhood: Fetal and Neonatal Edition; Jun 2014; vol. 99

Publication Date: Jun 2014

Publication Type(s): Conference Abstract

Available in full text at [Fetal and Neonatal](#) - from Highwire Press

Abstract: Induction of labour (IOL) is the use of drugs or interventions to start labour. Women with uncomplicated pregnancies should usually be offered IOL between 41+0 and 42+0 weeks. One of the recommended regimens is one Cycle of vaginal PGE2 tablets (pessaries) or gel; one dose followed by a second dose after 6 hours (up to a maximum of 2). If induction fails subsequent management options include a further attempt to induce labour or caesarean section.¹ We reviewed all IOL cases over a 3 year period in our unit who had 3 or more pessaries (N = 312). Maternal outcomes included epidural requirements, mode of delivery, blood loss, third degree tear rate and intensive care admissions. Neonatal outcomes included unit admissions, Hypoxic Ischaemic Encephalopathy and meconium aspiration. In our unit 8.5% of all ladies who had IOL had 3 or more pessaries over the 3 years. Of this cohort there was a 50% Caesarean section rate and 62% requested epidural. Major PPH (>1000 ml blood loss) occurred in 9% of cases and 6% of women had a 3rd degree tear. 2% of babies born after 3 or more PGE2 required admission to the neonatal unit. Women have varied experiences of IOL and the process can have an impact on their birth experience and their health. We conclude that it is reasonable to induce labour with 3 pessaries as long as the women are counselled appropriately that their chance of vaginal delivery is 50%. Our IOL information leaflets have been updated to include this.

Database: EMBASE

11. Comparison of intravenous oxytocin and vaginal dinoprostone for labor induction in patients non responders to a first dose of prostaglandins: A randomized prospective study

Author(s): Laoreti A.; Antonazzo P.; Personeni C.; Grossi E.; Martinelli A.; Cetin I.

Source: Journal of Maternal-Fetal and Neonatal Medicine; Jun 2014; vol. 27 ; p. 145-146

Publication Date: Jun 2014

Publication Type(s): Conference Abstract

Abstract: Brief Introduction: Bishop score ≤ 6 defines an unfavorable cervix. Each point of Bishop score affects the caesarean section's risk. In the presence of an unfavorable cervix, cervical ripening using prostaglandins is indicated. However, no studies have been performed to assess the best practice after failure of a first dose of prostaglandins. The aim of this study was to evaluate the efficacy of two different regimens for labor induction in patients with unfavorable cervix not responsive to a first dose of dinoprostone vaginal insert. Materials & Methods: Singleton term pregnancies with a Bishop score ≤ 6 who underwent labor induction between November 2011 and December 2013 were eligible. After 24 hours, patients non-responders to a first dose of dinoprostone of vaginal insert (Propess, Ferring) were randomized into two different regimens: intravenous oxytocin or repeated vaginal dinoprostone. Clinical Cases or Summary Results: 300 women were enrolled. 201 patients delivered or were in labor within 24 hours. Of the remaining 99 patients with persistent Bishop score ≤ 6 , 91 accepted to be randomized. 45 women received a second administration of dinoprostone (Group A) and 46 women were treated with intravenous oxytocin (Group B). The two groups were similar for maternal age, parity, pregestational BMI, weight gain, Bishop score (Group A: 1.7 ± 1.1 ; Group B: 2.2 ± 1.5) and gestational age (Group A: 39.9 ± 1.5 weeks; Group B: 40.0 ± 1.4 weeks) at induction. Bishop score at randomization was significantly

higher in the oxytocin group compared to dinoprostone group (Group A: 2.5 +/- 1.2; Group B: 3.5 +/- 1.9; $p < 0.05$). Vaginal deliveries were significantly higher (Group A: 25/45 (55.5%); Group B: 16/46 (34.8%), $p < 0.05$) and cesarean deliveries were significantly lower (Group A: 20/45 (44.5%); Group B: 30/46 (65.2%), $p < 0.05$) in patients who received a double dose of dinoprostone. The interval between induction and delivery was significantly shorter in Group B (Group A: 54.5 +/- 15.2 hours; Group B: 33.5 +/- 12.1 hours, $p < 0.001$). As regards to maternal and fetal complications, uterine tachysystole rate and meconium passage rate were similar in the two groups. Dinoprostone followed by i.v. Oxytocin was associated with significantly higher blood losses at delivery (Group A: 290.5 +/- 178.5 ml; Group B: 404.5 +/- 300.9 ml, $p < 0.05$). Neonatal outcomes were comparable between the groups. Conclusions: This is the first randomized trial finalized to evaluate different therapeutic options for the prosecution of labor induction in patients with persistent unfavorable cervix. Our data indicate that a second dinoprostone vaginal insert is an effective and safe choice for patients with unfavorable cervix not responsive to a first 24 hours administration of dinoprostone for cervical ripening, and its use is associated with lower cesarean section rates.

Database: EMBASE

12. A randomized prospective study: Intravenous oxytocin compared to vaginal dinoprostone for labor induction in patients non responders to a first dose of dinoprostone

Author(s): Antonazzo P.; Laoreti A.; Personeni C.; Grossi E.; Martinelli A.; Cetin I.

Source: Reproductive Sciences; Mar 2014; vol. 21 (no. 3)

Publication Date: Mar 2014

Publication Type(s): Conference Abstract

Abstract:INTRODUCTION: Induction of labor in patients with unfavorable cervix is often associated with high failure and cesarean delivery rates. The aim of the study was to evaluate the efficacy of two different regimens for labor induction in patients with unfavorable cervix not responsive to a first dose of dinoprostone vaginal insert. METHODS: Singleton term pregnancies with a Bishop score ≤ 6 who underwent labor induction between November 2011 and August 2013 were eligible. After 24 hours, patients non-responders to a first dose of dinoprostone 10 mg (Propess, Ferring) were randomized into two different regimens: intravenous oxytocin or repeated vaginal dinoprostone 10 mg. RESULTS: 237 women were enrolled. 153 patients delivered after the first administration of prostaglandins (64.5%). Of the remaining 84 patients with persistent unfavorable cervix 24 hours after the first administration of dinoprostone, 76 accepted to be randomized. 41 women received a 2nd administration of dinoprostone (Group A) and 35 women were treated with intravenous oxytocin (Group B). Maternal age (Group A: 32.1 +/- 5.3 years; Group B: 34.6 +/- 5.4 years), parity (primiparous: Group A: 82.9%; Group B: 80%) and gestational age (Group A: 40+3 +/- 1+6 weeks; Group B: 40+1 +/- 1+2 weeks) were similar in the two groups. Bishop score at randomization was comparable (Group A: 2.6 +/- 1.2; Group B: 3.2 +/- 2.1). Vaginal deliveries were significantly higher (Group A: 22/41 (53.7%); Group B: 9/35 (25.7%), $p < 0.05$) and cesarean deliveries were significantly lower (Group A: 19/41 (46.3%); Group B: 26/35 (74.3%), $p < 0.05$) in dinoprostone compared to oxytocin group. Oxytocin was associated with a significantly shorter induction-delivery interval (Group A: 54.7 +/- 15.6 hours; Group B: 34 +/- 12.4 hours, $p < 0.001$). Neonatal outcomes, defined by Apgar score at 5' and pH on umbilical artery were comparable between the groups. CONCLUSIONS: This is the first trial demonstrating that vaginal dinoprostone is an effective and safe choice for patients with unfavorable cervix not responsive to a first 24 hours administration of dinoprostone for cervical ripening, and its use is associated with lower cesarean section rate compared to oxytocin regimen.

Database: EMBASE

13. Single cycle of dinoprostone: Is that adequate?

Author(s): Dalal P.; Banu N.

Source: BJOG: An International Journal of Obstetrics and Gynaecology; Jun 2013; vol. 120 ; p. 153

Publication Date: Jun 2013

Publication Type(s): Conference Abstract

Available in full text at [BJOG: An International Journal of Obstetrics and Gynaecology](#) - from John Wiley and Sons

Abstract: Objectives An audit of use of propess (dinoprostone 10 mg) for induction of labour (IOL). NICE guidelines are the standard. Methods Case notes of 54 women who received propess for IOL from September 2012 to December 2012 were included. Data were obtained using a structured proforma. The information obtained included age, parity, gestation, indication for induction, use of membrane sweep at 40 and 41 weeks, Bishop Score before inserting propess and the use of prostin tablets and/or syntocinon if subsequently required. We also evaluated the outcome of labour and delivery. Results The results showed 45% were nulliparous, 48% were induced for post dated pregnancy. Diabetes mellitus contributed to 10% of inductions. Reduced fetal movements was the commonest indication amongst the mixed group (34%). A consultant was involved in decision making in 49% cases. The bishop score at time of induction ranges between 1 and 7. Only 57% of women had a membrane sweep performed, among which 65% had sweep on one occasion. Propess only was adequate in 35% of cases whereas 7% required an ARM and 26% needed syntocinon. Propess was followed by prostin in 11% of cases. Syntocinon was used for 5-10 h in 61% cases. The mode of delivery was 66% normal vaginal delivery, 26% caesarean section (CS) and 8% assisted vaginal delivery. Amongst CS 43% were for failed induction, 38% for fetal distress, 6% for delay in first stage of labour and 13% failed instrumental. Conclusions Forty-one percent of those induced delivered within 24 h. In our audit almost half the women undergoing CS were for failed IOL. Moreover in 14% of patients more than one propess was used. This decision was made on an individual basis as ARM was not possible. The NICE guideline for induction of labour recommends that 2 doses maximum of either tablets or gel of vaginal prostaglandin or, one cycle of PGE2 controlled-release pessary (Propess) should be used. The guideline makes no suggestion regarding further management of women whose cervix remains unfavourable for artificial rupture of membranes (ARM) after this regime. Further studies are required to confirm safety of use of multiple doses of propess in order to reduce incidence of CS for failed IOL.

Database: EMBASE

14. Cervical ripening at term with repeated administration of dinoprostone vaginal pessary.

Author(s): Petrovic Barbitch, M; Gnisci, A; Marcelli, M; Capelle, M; Guidicelli, B; Cravello, L; Gamorre, M; Agostini, A

Source: Gynecologie, obstetrique & fertilite; Jun 2013; vol. 41 (no. 6); p. 346-350

Publication Date: Jun 2013

Publication Type(s): English Abstract Journal Article

PubMedID: 23562543

Abstract:OBJECTIVETo evaluate efficacy and safety of cervical ripening with repeated administration of dinoprostone slow release vaginal pessary (Propess®) in current practice.PATIENTS AND METHODSAn observational study of 111 women who underwent cervical ripening with two Propess® during the study period from 1st July 2007 to 31st October 2011. Modes of delivery, success of cervical ripening, failure of labor induction, maternal and neonatal morbidity were reported.RESULTSThe nulliparous rate was 75,7%. The main indications for induction of labor were post-term pregnancy in 34,3% (38/111) and premature rupture of membranes in 25,2% (28/111). The rate of vaginal delivery was 53,1% (59/111). Cesarean sections were performed for failure of labor induction in 27/52 (51,9%) and an abnormal fetal heart rate in 17/52 (32.7%). Indication for induction of labor, nulliparous patients (44 [84.6%] versus 40 [67.8%]; P=0.04), initial Bishop score (2.2±1.2 versus 2.9±1.2; P=0.04) before the cervical ripening and Bishop score before administration of second Propess® (3.3±1.4 versus 4.0±1.2; P=0.05) were significant risk factors of cesarean delivery.DISCUSSION AND CONCLUSIONIn more than half of the cases, the cervical ripening by two Propess® is efficient and allows a vaginal delivery. This practice does not appear to increase the maternal or neonatal morbidity.

Database: Medline

15. Comparison of intravenous oxytocin and dinoprostone intravaginal device for labor induction in patients with unfavorable cervix not responsive to a first dose of dinoprostone: A retrospective study

Author(s): Antonazzo P.; Mazzocco M.; Laoreti A.; Personeni C.; Cetin I.

Source: Journal of Perinatal Medicine; Jun 2013; vol. 41

Publication Date: Jun 2013

Publication Type(s): Conference Abstract

Abstract:Introduction: Induction of labor may be indicated despite an unfavorable cervix when the benefits outweigh the risks of allowing pregnancies to continue until spontaneous labor onset. In addition to uterine contractility, cervical change is an essential component of normal labor. The goal of cervical ripening is to facilitate softening, thinning, and dilation of an unfavorable cervix so as to reduce the time to delivery and the incidence of failed induction. The mainstay methods of labor induction with an unfavorable cervix are the use of either exogenous prostaglandins or mechanical methods to stimulate the release of endogenous prostaglandins through physical stretching of the cervix for cervical ripening before induction of labor. Moreover, the best method of cervical ripening remains controversial as no method has been proven to be clearly superior. The aim of the study is to evaluate the efficacy of two different regimens for labor induction in patients with unfavorable cervix not responsive to a first dose of dinoprostone intravaginal device. Patients, Methods: We retrospectively analyzed 195 singleton term and postterm pregnancies with a Bishop score < 6 who underwent labor induction between January 2010 and December 2010. After 24 hours, patients non responders to first dose of dinoprostone were treated with two different regimens: intravenous oxytocin or repeated intravaginal dinoprostone. Results: A total of 195 women were available for the analysis. 106 patients delivered after the first administration of prostaglandin (53.4%). 89 patients

with persistent unfavorable cervix 24 hours after the first administration of dinoprostone were treated with two different therapeutic regimes: 52 women continued labor induction with a second administration of intravaginal dinoprostone device (Group A) and 37 women using intravenous oxytocin (Group B). The two groups were similar in term of maternal age (Group A: 33.0 +/- 6.0; Group B: 32.0 +/- 6.0 years), parity (primiparous: Group A: 43/52 (82.6%) ; Group B: 25/37 (67.5%)) and gestational age (Group A: 39.6 +/- 1.5; Group B: 39.6 +/- 1.2 weeks). Bishop score 24 hours after the start of labor induction (Group A: 2.3 +/- 1.4; Group B: 3.3 +/- 2.3, $p < 0.05$) was significantly different. The overall vaginal delivery rate was 64% (125/195). The induction-delivery interval was significantly shorter in Group B than in Group A (Group A: 50 +/- 13; Group B: 34 +/- 10 hours, $p < 0.001$). The vaginal delivery was not significantly different between the two groups (Group A: 27/52 (51.9%); Group B: 16/37 (43.2%)). Neonatal outcomes , defined by Apgar score at 5' (Group A: 9.9 +/- 0.2; Group B: 9.9 +/- 0.1) and pH on umbilical artery (Group A: 7.32 +/- 0.07 ; Group B: 7.31 +/- 0.08) showed no significant differences between our groups. Conclusion: Both oxytocin and dinoprostone seem to have similar obstetric outcomes in term and postterm pregnancies with an unfavorable cervix, except for a significant superiority of oxytocin for delivery in a shorter period. Consequently, the shorter hospital stay and the different price between the two therapeutic regimes should be considered in cost-effective induction of labor.

Database: EMBASE

16. Repeat use of dinoprostone pessary after failed induction of labour

Author(s): Umoren M.; Relph S.; Fakokunde A.

Source: Archives of Disease in Childhood: Fetal and Neonatal Edition; Apr 2013; vol. 98

Publication Date: Apr 2013

Publication Type(s): Conference Abstract

Available in full text at [Fetal and Neonatal](#) - from Highwire Press

Abstract: Introduction There is no guideline advising on the management of women in whom induction of labour with first dinoprostone pessary has failed. Repeat cervical ripening with a second pessary is a commonly used management option. Aim To assess the safety and efficacy of a second 10 mg dinoprostone (Prostaglandin E2) pessary inserted 24 hours after initial failure of cervical ripening. Methods A pilot retrospective study of women at a North London teaching hospital, over a 7 month period. Women who failed initial induction were managed using a repeat pessary of prostaglandin E2. Primary outcomes of interest included establishment of active labour, mode of delivery, Bishop score and any adverse events. Results 34 women having induction of labour were given a second pessary following failed initial induction. Medical records were available for 19 of these. 12 women (63%) achieved active labour following insertion of the 2nd dinoprostone pessary, and 10 of these (83%) delivered vaginally. Two cases of uterine hyperstimulation resolved on removal of the pessary. There was a significant difference in Bishop score pre-pessary insertion between the women who achieved active labour (83.3% had score ≥ 3) compared to those who failed to labour (0% had score ≥ 3), ($p = 3$). A larger study will follow, in order to add power to this data.

Database: EMBASE

17. Use of a second application of vaginal dinoprostone for cervical ripening in nulliparous patients

Author(s): Zork N.; Burwick R.; Beall M.

Source: Reproductive Sciences; Mar 2013; vol. 20 (no. 3)

Publication Date: Mar 2013

Publication Type(s): Conference Abstract

Abstract:Objective: To determine the efficacy of a second application of vaginal dinoprostone suppository (Cervidil) after the first application has failed to achieve a favorable cervix. Study Design: A retrospective chart review was performed of all nulliparous inductions between 36 0/7 weeks and 43 0/7 weeks at a single institution from 2006-2009. Included were women who underwent cervical ripening with only dinoprostone. Subjects were divided into two groups. Group A responded to one 12 hour application of dinoprostone. Group B had an unfavorable cervix after the first application and received a second 12 hour suppository. Clinical characteristics and c-section rates were compared. Analysis included Student's t-test, Chi-square test, univariate and multivariate logistic regression. Results: A total of 125 inductions were studied, with 88 patients in Group A and 37 patients in Group B. Maternal age, gestational age, estimated fetal weight, birthweight, and epidural use were not significantly different between groups. There was a greater proportion of obese patients (body mass index [BMI] ≥ 30 kg/m²) in Group B (54% vs. 78%, $p=0.015$). The c-section rate was significantly greater in Group B compared to Group A (57% vs. 22% $p<0.001$) and this remained significant after adjusting for BMI. In patients who achieved a favorable cervix after the second application of dinoprostone, the rate of c-section was similar to Group A (29% vs. 22%, $p=0.513$), whereas if the cervix was still unfavorable, the c-section rate was 74%. Conclusion: The odds of c-section is 4-fold greater in nulliparous women failing to achieve a favorable cervix after one application of dinoprostone, particularly if they are obese. However, if a second application is successful, the c-section rate is similar to those who responded to one application. If a second application is unsuccessful, patients should be counseled regarding a very high risk for c-section.

Database: EMBASE

18. Dinoprostone vaginal pessary for induction of labour: safety of use for up to 24 h.

Author(s): Tathem, Kellie; Harris, Lisa J; O'Rourke, Peter; Kimble, Rebecca M

Source: The Australian & New Zealand journal of obstetrics & gynaecology; Dec 2012; vol. 52 (no. 6); p. 582-587

Publication Date: Dec 2012

Publication Type(s): Journal Article

PubMedID: 23004009

Available in full text at [Australian and New Zealand Journal of Obstetrics and Gynaecology](#) - from John Wiley and Sons

Abstract:BACKGROUND Cervidil[®] (dinoprostone) intravaginal pessaries are used for induction of labour and maintain serum prostaglandin levels for up to 24 h. The Therapeutic Goods Administration approves Cervidil[®] for 12-h use. However, twenty-four-hour use of Cervidil[®] is supported in Europe, New Zealand, America and some Australian hospitals. AIM To assess the safety of Cervidil[®] use for up to 24 h for induction of labour in nulliparous women. METHODSA retrospective cohort study of 269 consecutive women receiving Cervidil[®] at the Royal Brisbane and Women's Hospital (RBWH) between July 2007 and December 2008 was performed. The primary outcome measures were frequency of, and time to, uterine tachysystole with or without fetal heart rate (FHR) changes. Secondary outcome measures included frequency of maternal (intrapartum temperature, postpartum haemorrhage) and neonatal (low Apgars, resuscitation, nursery admission)

morbidity. Morbidity outcomes of those who received Cervidil® for less than or equal to 12 h were compared with those who received Cervidil® for more than 12 h. RESULTS Uterine tachysystole occurred in 9.3% of patients receiving Cervidil®, with a mean time to tachysystole of 10 h. The majority of cases (68%) occurred within 12 h of use. There was no increase in maternal or neonatal morbidity for those who received Cervidil® for longer than 12 h. CONCLUSION Twenty-four-hour use of Cervidil® is likely as safe as 12-h use for induction of labour in nulliparous women.

Database: Medline

19. Pre-induction of labour: Comparing dinoprostone vaginal insert to repeated prostaglandin administration: A systematic review and meta-analysis

Author(s): Facchinetti F.; Fontanesi F.; Giovane C.D.

Source: Journal of Maternal-Fetal and Neonatal Medicine; Oct 2012; vol. 25 (no. 10); p. 1965-1969

Publication Date: Oct 2012

Publication Type(s): Article

PubMedID: 22372421

Abstract: Objective: To assess the efficacy and safety of the dinoprostone vaginal insert compared to repeated prostaglandin administration (including dinoprostone and misoprostol) in women at term. Methods: Electronic databases and additional handsearching were used to identify randomized controlled trial (RCT). We included studies reporting data separately for nulliparous and/or multiparous in women with unfavourable cervix (Bishop <5) and intact membranes. The primary efficacy outcome was caesarean section (CS) rate. Primary safety outcome was uterine hyperstimulation requiring immediate delivery. Results: Eighteen RCTs were eligible and seven studies were included (totally 911 patients). The dinoprostone vaginal insert reduces CS rate in nulliparous women of 24% compared to the other ways of administration (RR 0.76, 95% CI 0.59, 0.98). The risk of oxytocin use is reduced with the use of vaginal insert (RR 0.64, 95% CI 0.42, 0.99). The risk of hyperstimulation is statistically higher in nulliparous women using vaginal insert than the other ways of administration with RR 2.17, 95% CI 1.08, 4.33. Conclusions: In nulliparous women with unprepared cervix and intact membranes vaginal insert perform better than repeated vaginal doses since it is associated with more vaginal deliveries and less oxytocin use. Although vaginal insert is associated with more uterine hyperstimulation, it shows a protective effect toward caesarean section. © 2012 Informa UK, Ltd.

Database: EMBASE

20. Sustained-release dinoprostone vaginal pessary with concurrent high-dose oxytocin infusion compared to sustained-release dinoprostone vaginal pessary followed 6 h later by high-dose oxytocin infusion for labor induction in women at term with unfavorable cervix: A randomized controlled trial

Author(s): Gungorduk K.; Yildirim G.; Gungorduk O.; Ark C.; Tekirdag A.I.

Source: Gynecologic and Obstetric Investigation; Jan 2011; vol. 71 (no. 1); p. 32-40

Publication Date: Jan 2011

Publication Type(s): Article

PubMedID: 21160192

Available in full text at [Gynecologic and Obstetric Investigation](#) - from ProQuest

Abstract:Objective: To compare the efficacy and safety of sustained-release dinoprostone vaginal pessary and concurrent high-dose oxytocin infusion with sustained-release dinoprostone vaginal pessary followed 6 h later by high-dose oxytocin infusion for cervical ripening and labor induction. Methods: A total of 500 nulliparous or multiparous women with a singleton pregnancy, Bishop score ≤ 4 and admitted for labor induction. Women were randomly assigned to induction of labor using intravaginal dinoprostone with concurrent high-dose oxytocin ($n = 250$) or intravaginal dinoprostone pessary followed 6 h later by high-dose oxytocin ($n = 250$). The primary outcome was the number of vaginal deliveries achieved within 24 h of labor induction. Results: Baseline characteristics of both groups were comparable. Vaginal delivery within 24 h of labor induction was significantly increased with sustained-release dinoprostone followed 6 h later by high-dose oxytocin infusion (92.8 vs. 82.0%, RR 2.82, 95% CI 1.58-5.04). There were more cesarean section deliveries in the dinoprostone with concurrent high-dose oxytocin group (16.8 vs. 6.8%, RR 0.36, 95% CI 0.20-0.65). Maternal outcomes did not differ significantly. An Apgar score of <7 at 5 min was found more often in the dinoprostone with concurrent high-dose oxytocin group (3.6%) in comparison to dinoprostone pessary followed 6 h later by high-dose oxytocin (0.8%), although this was not statistically different (RR 0.21, 95% CI 0.04-1.01). Conclusion: Sustained-release dinoprostone followed 6 h later by high-dose oxytocin infusion appears to be safer and more effective than sustained-release dinoprostone with concurrent high-dose oxytocin infusion in achieving cervical ripening and successful vaginal delivery. Copyright © 2010 S. Karger AG, Basel.

Database: EMBASE

21. Obstetric outcomes after cervical ripening by multiple doses of vaginal prostaglandin E2.

Author(s): Chan, Louis Yik-Si; Fu, Lucille; Leung, Tse Ngong; Wong, Shell Fean; Lau, Tze Kin

Source: Acta obstetricia et gynecologica Scandinavica; Jan 2004; vol. 83 (no. 1); p. 70-74

Publication Date: Jan 2004

Publication Type(s): Journal Article

PubMedID: 14678088

Available in full text at [Acta Obstetricia et Gynecologica Scandinavica](#) - from John Wiley and Sons

Abstract:AIMThe study was designed to investigate the delivery outcome in women who required vaginal prostaglandin E2 for cervical priming prior to labor induction.MATERIALS AND METHODSThis retrospective cohort study included all singleton term deliveries that required labor induction over a 3-year period. Incidence and indications of obstetric interventions were compared among women who required different doses of vaginal prostaglandin E2 for cervical priming and who had induction by amniotomy and oxytocin infusion.RESULTSO f 706 deliveries, 411 had favorable Bishop's scores and no vaginal prostaglandin E2 for cervical priming was required (group A); 268 required one or two doses of vaginal prostaglandin E2 for cervical priming (group B); and 27 required three or more

doses (group C). The incidence of cesarean section was significantly higher in group C (48.1%) than in group A (19.0%) and group B (16.4%). The difference remained statistically significant when primiparous and multiparous women were analyzed separately. The risk of obstetric intervention was particularly high in primiparous women in group C (58.8% required emergency cesarean section and 23.5% had instrumental delivery). There was an increased frequency of all major indications for cesarean section in group C. **CONCLUSION** The risk of emergency cesarean section was higher in women who required more than two doses of vaginal prostaglandin E2 for cervical priming compared to induction by one or two doses of vaginal prostaglandin E2 or by amniotomy and oxytocin infusion. These women should be informed regarding the high risk of intrapartum cesarean section, and the option of alternative methods of induction or elective cesarean section should be made available.

Database: Medline

22. Randomized trial between two active labor management protocols in the presence of an unfavorable cervix.

Author(s): Bolnick, Jay M; Velazquez, Maria D; Gonzalez, Jose L; Rappaport, Valerie J; McIlwain-Dunivan, Gena; Rayburn, William F

Source: American journal of obstetrics and gynecology; Jan 2004; vol. 190 (no. 1); p. 124-128

Publication Date: Jan 2004

Publication Type(s): Research Support, Non-u.s. Gov't Comparative Study Randomized Controlled Trial Clinical Trial Journal Article

PubMedID: 14749647

Abstract: **OBJECTIVE** The purpose of this study was to compare the efficacy of two protocols for active management of labor at term in the presence of an unfavorable cervix. **STUDY DESIGN** Pregnancies that underwent labor induction at > or =37 weeks of gestation with an unfavorable cervix (Bishop score, < or =6) were randomly assigned to receive vaginally either a single dose of sustained-release dinoprostone (Cervidil) with concurrent low-dose oxytocin or multidosing of misoprostol (25 microg every 4 hours) followed by high-dose oxytocin. The primary outcome was the time interval from induction to vaginal delivery. Other parameters included excess uterine activity and cesarean delivery rates. **RESULTS** A total of 151 patients (dinoprostone, 74 patients; misoprostol, 77 patients) were enrolled. The mean time from the initiation of induction to vaginal delivery was the same in the dinoprostone and misoprostol groups (15.7 hours; 95% CI, 13.7-17.7 hours vs 16.0 hours; 95% CI, 14.1-17.8 hours; $P=.34$), regardless of parity. The dinoprostone and misoprostol groups did not differ statistically in the percent of patients who were delivered vaginally by 12 hours (36.2% vs 29.7%), 18 hours (63.8% vs 56.3%), and 24 hours (81.0% vs 81.3%). Excess uterine activity was not more common in either group, and hyperstimulation syndrome was absent in all cases. Primary cesarean delivery rates were similar (dinoprostone, 21.6%; misoprostol, 16.9%; relative risk, 1.3; 95% CI, 0.7-2.5), with a failed induction that occurred in one case in each group. **CONCLUSIONS** Sustained-release dinoprostone with concurrent low-dose oxytocin and intermittent misoprostol with delayed high-dose oxytocin are effective alternatives for active management of labor with an unfavorable cervix.

Database: Medline

23. Two dosing regimens for preinduction cervical priming with intravaginal dinoprostone pessary: a randomised clinical trial.

Author(s): Tan, L K; Tay, S K

Source: British journal of obstetrics and gynaecology; Sep 1999; vol. 106 (no. 9); p. 907-912

Publication Date: Sep 1999

Publication Type(s): Randomized Controlled Trial Clinical Trial Journal Article

PubMedID: 10492100

Available in print at [Patricia Bowen Library and Knowledge Service West Middlesex university Hospital](#) - from British Journal of Obstetrics and Gynaecology (BJOG)

Abstract:OBJECTIVE To compare the efficacy within 24 hours of a three-times-a-day intensive dosing regimen with a standard once daily dosing regimen using dinoprostone vaginal pessary in preinduction cervical priming. DESIGN Randomised controlled trial. SETTING Department of Obstetrics and Gynaecology, Singapore General Hospital. PARTICIPANTS One hundred singleton term primigravidae with cephalic presentation with unfavourable cervical scores (Bishop score ≤ 6) or the onset of active labour occurred. MAIN OUTCOME MEASURES Number of women whose cervixes were ripened successfully or who entered active labour within 24 hours of starting cervical priming, priming to induction interval, and priming to delivery interval. RESULTS Forty-nine women were assigned to the standard regimen and 51 to the intensive regimen. The median number (range) of dinoprostone pessaries used was two (one to seven) in the standard regimen and three (one to nine) in the intensive regimen. Forty-two women (82.4%) who underwent the intensive regimen achieved successful cervical ripening or active labour within 24 hours, compared with 21 assigned to standard regimen (OR 6.2, 95% CI 2.3-17.4). This difference was statistically significant. The median intervals from priming to induction, and from priming to delivery, were also statistically significantly shorter in women treated with the intensive regimen. Thirty-five women (68.63%) assigned the intensive regimen experienced pain, compared with 21 (42.86%) in the standard regimen (OR 2.92, 95% CI 1.19-7.21), with two and one women in the respective regimens requiring opiate analgesics. Five women with oligohydramnios had transient cardiotocographic abnormalities during priming with the intensive regimen, none of which required immediate intervention, and the babies were born in good condition. There were no cases of uterine hypertonus and the outcomes of labour were similar for women from both regimens. CONCLUSIONS Preinduction cervical priming with the intensive dosing regimen improves the chances of successful ripening within 24 hours for primigravidae with unfavourable cervical scores at full term singleton pregnancies, and shortens the interval from priming to induction, and priming to delivery. This regimen may be more cost effective by shortening the period of hospital stay. The overall incidence of adverse reactions to the mother and fetus during priming was low. However, close fetal surveillance must be maintained, particularly in pregnancies complicated with oligohydramnios.

Database: Medline

24. A comparison of intermittent vaginal administration of misoprostol with continuous dinoprostone for cervical ripening and labor induction.

Author(s): Wing, D A; Ortiz-Omphroy, G; Paul, R H

Source: American journal of obstetrics and gynecology; Sep 1997; vol. 177 (no. 3); p. 612-618

Publication Date: Sep 1997

Publication Type(s): Comparative Study Randomized Controlled Trial Clinical Trial Journal Article

PubMedID: 9322632

Abstract:OBJECTIVEOur purpose was to compare the effect of vaginal administration of misoprostol (Cytotec) with that of dinoprostone (Cervidil) on cervical ripening and labor induction.STUDY DESIGNTwo hundred patients with indications for induction of labor and unfavorable cervical examinations were randomly assigned to receive vaginally administered misoprostol (prostaglandin E1) or the dinoprostone (prostaglandin E2) vaginal insert. Twenty-five microgram tablets of misoprostol were placed in the posterior vaginal fornix every 4 hours for a maximum of six doses. Additional misoprostol was not given after either spontaneous rupture of membranes, adequate cervical ripening (Bishop score of ≥ 8 or cervical dilatation of ≥ 3 cm), or beginning of active labor. The vaginal insert, Cervidil, containing 10 mg of dinoprostone in a timed-release preparation was placed in the posterior vaginal fornix for a maximum period of 24 hours. The vaginal insert was removed for spontaneous rupture of membranes, entry into active labor, adequate cervical ripening, or abnormality of uterine contractile pattern or fetal cardiac activity.RESULTSO f the 200 patients enrolled, 99 were randomized to misoprostol and 101 to dinoprostone. The average interval from start of induction to vaginal delivery was 1 hour shorter in the misoprostol group (1296.7 \pm 722.1 minutes) than in the dinoprostone group (1360.0 \pm 792.0 minutes), but this difference was not statistically significant ($p = 0.97$). Oxytocin augmentation of labor was used in 50 (50.5%) misoprostol-treated patients and 43 (43.5%) dinoprostone-treated patients (relative risk 1.14, 95% confidence interval 0.86 to 1.51, $p = 0.35$). There were no significant differences between routes of delivery with misoprostol or dinoprostone. Overall, 38 patients (19.3%) had cesarean deliveries. There was a significantly lower prevalence of tachysystole (six or more uterine contractions in a 10-minute window for two consecutive 10-minute periods) in the misoprostol group (7.1%) than in the dinoprostone group (18.4%) (relative risk 0.52, 95% confidence interval 0.31 to 0.89, $p = 0.02$). There were no significant differences in frequency of uterine hyperstimulation or hypertonus. Abnormal fetal heart rate tracings were found in 23 (23.2%) of misoprostol-treated patients and 35 (35.7%) of dinoprostone-treated patients (relative risk 0.73, 95% confidence interval 0.52 to 1.01, $p = 0.0546$). No significant differences were found in meconium passage, 1- or 5-minute Apgar scores < 7 , neonatal resuscitations, or admissions to the neonatal intensive care unit between the two groups.CONCLUSIONSVaginally administered misoprostol is as effective as dinoprostone for cervical ripening and the induction of labor. Mean time intervals to delivery, need for oxytocin augmentation, and routes of delivery were similar between the two groups. Incidence of uterine tachysystole with misoprostol every 4 hours was significantly less than with dinoprostone.

Database: Medline

Strategy 241314

#	Database	Search term	Results
1	Medline	(Propess).ti,ab	28
2	Medline	exp DINOPROSTONE/	26574
3	Medline	(dinoprostone).ti,ab	398
4	Medline	(1 OR 2 OR 3)	26680
5	Medline	(induc* ADJ2 (labor OR labour)).ti,ab	7758
6	Medline	("labor, induced").ti,ab,af	8715
7	Medline	(5 OR 6)	11781
8	Medline	exp "TIME FACTORS"/	1090648
9	Medline	(4 AND 7 AND 8)	169
10	Medline	(pessar*).ti,ab	1414
11	Medline	exp PESSARIES/	1290
12	Medline	(10 OR 11)	2026
13	Medline	(9 AND 12)	25
14	Medline	(24h OR "24 hours" OR "twenty four hours").ti,ab	121285
15	Medline	(4 AND 7 AND 14)	140
16	Medline	(12 AND 15)	18
17	Medline	(1 AND 8)	3
18	Medline	("slow release").ti,ab	6028
19	Medline	(4 AND 7 AND 8 AND 18)	2

20	Medline	(prostin).ti,ab	108
21	Medline	(4 AND 7 AND 20)	29
22	Medline	exp "DOSE-RESPONSE RELATIONSHIP, DRUG"/	386920
23	Medline	(4 AND 7 AND 22)	43
24	Medline	(replac* OR reinsert*).ti,ab	353304
25	Medline	(4 AND 7 AND 24)	9
26	EMBASE	(propess).ti,ab	81
27	EMBASE	exp "PROSTAGLANDIN E2"/	51283
28	EMBASE	(dinoprostone).ti,ab	669
29	EMBASE	(26 OR 27 OR 28)	51311
30	EMBASE	(induc* ADJ2 (labor OR labour)).ti,ab	10488
31	EMBASE	exp "LABOR INDUCTION"/	13299
32	EMBASE	exp "UTERINE CERVIX RIPENING"/	2324
33	EMBASE	(30 OR 31 OR 32)	17929
34	EMBASE	exp "DOSE TIME EFFECT RELATIONSHIP"/ OR exp "DOSE TIME EFFECT RELATION"/	34227
35	EMBASE	(29 AND 33 AND 34)	15
36	EMBASE	exp "TIME FACTOR"/	12792
37	EMBASE	(29 AND 33 AND 36)	0
38	EMBASE	exp TIME/	513478
39	EMBASE	(29 AND 33 AND 38)	38

40	EMBASE	(24h OR "24 hours" OR "twenty four hours").ti,ab	185510
41	EMBASE	(29 AND 40)	1022
42	EMBASE	(33 AND 41)	256
43	EMBASE	exp "VAGINA PESSARY"/	2222
44	EMBASE	(42 AND 43)	19
45	EMBASE	(fail* OR repeat*).ti,ab	1798736
46	EMBASE	(29 AND 33 AND 43 AND 45)	34
47	EMBASE	exp "TREATMENT FAILURE"/	112487
48	EMBASE	(29 AND 33 AND 47)	26
49	EMBASE	exp "REPEATED DRUG DOSE"/	6613
50	EMBASE	(29 AND 33 AND 49)	18
52	Medline	(ripen* ADJ2 cervi*).ti,ab	1710
53	Medline	exp "CERVICAL RIPENING"/	938
54	Medline	(52 OR 53)	2020
55	Medline	(repeat* OR fail*).ti,ab	1325479
56	Medline	(repeat* OR fail*).ti,ab	1325479
57	Medline	(4 AND 54 AND 56)	104
58	Medline	(12 AND 57)	9
59	Medline	((second OR repeat*) ADJ2 dinoprostone).ti,ab	12
60	Medline	((second OR repeat*) ADJ2 Prepidil).ti,ab	0
61	Medline	((second OR repeat*) ADJ2	1

		propess).ti,ab	
62	Medline	(timing).ti,ab	106025
63	Medline	(4 AND 7 AND 62)	10
64	EMBASE	((second OR repeat*) ADJ2 Prepidil).ti,ab	0
65	EMBASE	((second OR repeat*) ADJ2 propess).ti,ab	4
66	CINAHL	(propess).ti,ab	2
67	CINAHL	(dinoprostone).ti,ab	99
68	CINAHL	exp DINOPROSTONE/	165
69	CINAHL	(66 OR 67 OR 68)	196
70	CINAHL	(repeat* OR fail* OR timing).ti,ab	139125
71	CINAHL	(69 AND 70)	10
72	CINAHL	exp PESSARIES/	243
73	CINAHL	(69 AND 72)	11
74	CINAHL	(69 AND 72)	11
75	Medline	("multiple dose*").ti,ab	7949
76	Medline	("multi dose*").ti,ab	582
77	Medline	(75 OR 76)	8483
78	Medline	(4 AND 77)	12
79	EMBASE	exp "MULTIPLE DRUG DOSE"/	4216
80	EMBASE	(29 AND 32 AND 79)	2
81	Medline	exp "TREATMENT FAILURE"/	30561

82	Medline	(4 AND 54 AND 81)	6
83	Medline	("second dose" OR "second dosage").ti,ab	4017
84	Medline	(4 AND 83)	18
85	Medline	(remov*).ti,ab	535423
86	Medline	(4 AND 54 AND 85)	18
88	EMBASE	((unfavorable OR unfavourable) ADJ2 cervix).ti,ab	560
89	EMBASE	(29 AND 32 AND 88)	117
90	Medline	((unfavorable OR unfavourable) ADJ2 cervi*).ti,ab	524
91	Medline	(4 AND 90)	201
92	Medline	(insert*1 OR pessar*).ti,ab	9131
93	Medline	(91 AND 92)	35
94	Medline	(nonrespond* OR "non respon*").ti,ab	29096
95	Medline	(4 AND 92 AND 94)	1
96	Medline	(second ADJ2 ripening).ti,ab	17
97	Medline	("24 h").ti,ab	205135
98	Medline	(4 AND 92 AND 97)	20
99	EMBASE	("24 h").ti,ab	255976
100	EMBASE	(29 AND 33 AND 99)	110