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Pre-labour rupture of membranes at term – expectant versus conservative management

Resources searched
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Summary
NICE recommend that women with pre-labour rupture of membranes should be offered a choice of induction of labour with vaginal PGE24 or expectant management. Rupture of membranes should be avoided in women with primary genital herpes lesions. The Society of Obstetricians and Gynaecologists of Canada indicate that expectant management also significantly increases the risks of neonatal infection. Induction of labour is preferred but with the possible risk of cord prolapse.

In terms of a comparison between conservative and expectant management, the research is inconclusive. The research seems to indicate that planned management reduces maternal infections but results in similar rates of neonatal infection and caesarean section when compared to expectant management. However active management is seen as particularly beneficial to primigravida with an unripe cervix.

• fewer infants went to intensive care under planned management (4)
• planned management with oxytocin or prostaglandin reduces the risk of some maternal infectious morbidity (4) (16) and does not increase the risk of Caesarean
Section compared with expectant management (12), and when it or prostaglandin E2 is compared to expectant management they result in similar rates of neonatal infection and cesarean section. (16) (17). It did however expose the mother to a higher risk of operative delivery and a less comfortable labor than the 48 hours expectant care option (17).

- Active management is particularly beneficial to primigravida with an unripe cervix (11) Although prostaglandins in theory should be an useful adjunct agent to oxytocin, particularly in the nulliparous woman with unripe cervix, convincing evidence of the efficacy of the drug is still lacking. (18)

- Active management using PGE2 gel in parous women with pre-labor SROM significantly improves the time to delivery without influencing the cesarean rate or fetal-maternal infective morbidity. (21)

- The best approach is to induce labour if spontaneous labour has not begun after 24 hours (7)

- Expectant management in patients with ruptured membranes at term is safe and reduces the frequency of operative vaginal deliveries (15)

- Antimicrobial therapy, when used in the expectant management of preterm premature rupture of the membranes is associated with prolongation of pregnancy and a reduction in the diagnosis of maternal and infant morbidity. (20)

- Compared with the expectant management groups, induced women were less likely to report there was nothing they liked about their treatment and less likely to report that the treatment caused additional worry. (13)

Guidelines

**NICE**

**Induction of labour** 2008

1.2.3.1 Women with prelabour rupture of membranes at term (at or over 37 weeks) should be offered a choice of induction of labour with vaginal PGE2 or expectant management.

1.2.3.2 Induction of labour is appropriate approximately 24 hours after prelabour rupture of the membranes at term.

**Guidelines for the management of HIV infection in pregnant women** 2008

2.7 Scenario 7: term pre-labour rupture of membranes

The antiretroviral management in this situation is as for Scenario 6. Commence HAART, including a single dose of NVP and intravenous zidovudine, and proceed to Caesarean section after 2–4 h. If the mother is on HAART with a fully suppressed viral load, a decision should be made as to whether induction of labour, as opposed to an emergency Caesarean section, is possible.

13.3.7 Term pre-labour rupture of membranes

The transmission risk for women with term PROM taking HAART who have undetectable plasma viraemia is unknown.

**Intrapartum care: management and delivery of care to women in labour** 2007

Preterm labour or preterm prelabour rupture of membranes is a factor indicating increased risk and thereby suggesting planned birth at an obstetric unit

**Royal College of Obstetricians and Gynaecologists**
Umbilical cord prolapse 2008
Women with preterm prelabour rupture of membranes with noncephalic presentations appear to have a significantly higher risk of cord prolapse when compared with their cephalic counterparts.

Management of genital herpes in pregnancy 2007
For women who develop primary genital herpes lesions within 6 weeks of delivery and who opt for a vaginal birth, rupture of membranes should be avoided and invasive procedures should not be used.

Women with recurrent genital herpes lesions and confirmed rupture of membranes at term should be advised to have delivery expedited by the appropriate means.

Society of Obstetricians and Gynaecologists of Canada
The Prevention of Early-Onset Neonatal Group B Streptococcal Disease 2004
If a woman is GBS-positive by culture screening or by history of bacteriuria, with prelabour rupture of membranes at term, treat with GBS antibiotic prophylaxis and initiate induction of labour with IV oxytocin

PREMATURE RUPTURE OF MEMBRANES (PROM) AT TERM (>37 WEEKS' GESTATION) In the term PROM study, Hannah et al. reviewed their outcomes in GBS-colonized women versus GBS-negative women. 4834 women were randomized to induction versus expectant management. The analysis revealed that for GBS-culture-positive women, induction decreased the risk of neonatal infection, with an odds ratio (OR) of 0.29 (p=0.06). In the expectant management group, GBS-positive women had a significantly greater risk of neonatal infection (OR 4.12, p<0.001). The conclusion of this study was that for GBS colonized women with PROM at term, immediate induction with oxytocin decreased risk of infection versus expectant management or induction with prostaglandin E2 (PGE2).

Induction of Labour at Term 2001
Other indications for induction include premature rupture of membranes. Potential risks of induction possibly include cord prolapse with artificial rupture of membranes.

Toward Optimized Practice
Medical Induction of Labour 2008
Term, pre-labour rupture of membranes indicates the need for induction of labour.

Premature rupture of membranes 2008

Cochrane Database of Systematic Reviews
Planned early birth versus expectant management (waiting) for prelabour rupture of membranes at term (37 weeks or more) 2006
Planned management (with methods such as oxytocin or prostaglandin) reduces the risk of some maternal infectious morbidity without increasing caesarean sections and operative vaginal births. Fewer infants were admitted to neonatal intensive care under planned management although no differences were seen in neonatal infection rates between planned and expectant management. Since the differences in outcomes between planned and expectant management may not be substantial, women need to be able to access the appropriate information to make
an informed choice.

**NHS Economic Evaluation Database**

**Induction of labour versus expectant management for prelabour rupture of the membranes at term: an economic evaluation 2000**

Although the clinical results of the TERMPROM study did not find IwO to be preferable to the other treatment alternatives, the economic evaluation found it to be less costly. However, these cost differences, even though statistically significant, are not likely to be important in many countries. When this is the case, the authors recommend that women be offered a choice between management strategies.

*Royal College of Midwives*

**Pre-labour rupture of membranes at term 2005**

**Published research**

1. **Pre-labor rupture of membranes at term in patients with an unfavorable cervix: active versus conservative management.**

   **Author(s):** Ayaz A, Saeed S, Farooq MU, Ahmad F, Bahoo LA, Ahmad I

   **Citation:** Taiwanese Journal of Obstetrics & Gynecology, June 2008, vol./is. 47/2(192-6), 1875-6263

   **Publication Date:** June 2008

   **Abstract:** OBJECTIVE: To compare the safety and efficacy of conservative management of pre-labor rupture of membranes (PROM) at term in patients with an unfavorable cervix, with active treatment using oral misoprostol. MATERIALS AND METHODS: This quasi-experimental study was conducted between June 1, 2004 and November 30, 2004 at Bahawal Victoria Hospital, Bahawalpur, Pakistan. Eighty-four multigravid women (parity, < 5) at > or = 37 weeks' gestation and with unfavorable cervices were divided equally between group S (study) and group C (conservative). Group S was given 50 micrograms of oral misoprostol every 4 hours for a maximum of four doses, while group C was managed conservatively. The intervals between PROM and significant uterine contractions and delivery, the mode of delivery, and maternal and fetal/neonatal complications were the main outcome measures. RESULTS: The intervals between PROM and the onset of uterine contractions and delivery were lower in group S than group C (9.6 vs. 14.8 hours; p < 0.001) and (11.6 vs. 17 hours; p < 0.001), respectively. Fewer women delivered abdominally within 24 hours of PROM in group S than in group C (5% vs. 24%; p < 0.05). Induction failure in group S was less than conservative management failure in group C (10% vs. 60%; p < 0.001). The maternal complication rate was less in group S than in group C (7% vs. 14%; p > 0.05), but the fetal/neonatal complication rate was similar in both groups (5%). CONCLUSION: Oral misoprostol (50 micrograms) is safe and effective for cervical ripening and labor induction in patients with PROM and an unfavorable cervix.

   **Source:** MEDLINE

2. **Midwifery management of prelabor rupture of membranes at term.**

   **Author(s):** Marowitz A, Jordan R

   **Citation:** Journal of Midwifery & Women's Health, May 2007, vol./is. 52/3(199-206), 1542-2011

   **Publication Date:** May 2007

   **Abstract:** Spontaneous rupture of membranes before the onset of labor at term is
commonly referred to as PROM (either premature or preterm rupture of membranes) and occurs in about 8% of term pregnancies. PROM is associated with an increased risk of infection. Many controversies exist regarding the optimal management of PROM, including the choice of induction or expectant management, use of digital vaginal exams, and routine administration of antibiotics. This article reviews the literature on PROM and illustrates some of the management issues encountered by presenting approaches used in three midwifery services.

Source: MEDLINE

3. Induction of labour versus expectant management in women with preterm prelabour rupture of membranes between 34 and 37 weeks (the PPROMEXIL-trial).


Citation: BMC Pregnancy & Childbirth, 2007, vol./is. 7/(11), 1471-2393

Publication Date: 2007

Abstract: BACKGROUND: Preterm prelabour rupture of the membranes (PPROM) is an important clinical problem and a dilemma for the gynaecologist. On the one hand, awaiting spontaneous labour increases the probability of infectious disease for both mother and child, whereas on the other hand induction of labour leads to preterm birth with an increase in neonatal morbidity (e.g., respiratory distress syndrome (RDS)) and a possible rise in the number of instrumental deliveries. METHODS/DESIGN: We aim to determine the effectiveness and cost-effectiveness of immediate delivery after PPROM in near term gestation compared to expectant management. Pregnant women with preterm prelabour rupture of the membranes at a gestational age from 34+0 weeks until 37+0 weeks will be included in a multicentre prospective randomised controlled trial. We will compare early delivery with expectant monitoring. The primary outcome of this study is neonatal sepsis. Secondary outcome measures are maternal morbidity (chorioamnionitis, puerperal sepsis) and neonatal disease, instrumental delivery rate, maternal quality of life, maternal preferences and costs. We anticipate that a reduction of neonatal infection from 7.5% to 2.5% after induction will outweigh an increase in RDS and additional costs due to admission of the child due to prematurity. Under these assumptions, we aim to randomly allocate 520 women to two groups of 260 women each. Analysis will be by intention to treat. Additionally a cost-effectiveness analysis will be performed to evaluate if the cost related to early delivery will outweigh those of expectant management. Long term outcomes will be evaluated using modelling. DISCUSSION: This trial will provide evidence as to whether induction of labour after preterm prelabour rupture of membranes is an effective and cost-effective strategy to reduce the risk of neonatal sepsis. CONTROLLED CLINICAL TRIAL REGISTER: ISRCTN29313500.

Source: MEDLINE

Full Text:

Available in fulltext at BioMedCentral

Available in fulltext at National Library of Medicine

4. Planned early birth versus expectant management (waiting) for prelabour rupture of membranes at term (37 weeks or more)

Author(s): Dare MR, Middleton P, Crowther CA, Flenady VJ, Varatharaju B

Citation: Cochrane Database of Systematic Reviews, 2006, vol./is. /1(CD005302),
Abstract: BACKGROUND: Prelabour rupture of membranes at term is managed expectantly or by elective birth, but it is not clear if waiting for birth to occur spontaneously is better than intervening. OBJECTIVES: To assess the effects of planned early birth versus expectant management for women with term prelabour rupture of membranes on fetal, infant and maternal wellbeing. SEARCH STRATEGY: We searched the Cochrane Pregnancy and Childbirth Group Trials Register (November 2004), the Cochrane Central Register of Controlled Trials (The Cochrane Library, Issue 4, 2004), MEDLINE (1966 to November 2004) and EMBASE (1974 to November 2004). SELECTION CRITERIA: Randomised or quasi-randomised trials of planned early birth compared with expectant management in women with prelabour rupture of membranes at 37 weeks' gestation or more. DATA COLLECTION AND ANALYSIS: Two review authors independently applied eligibility criteria, assessed trial quality and extracted data. A random-effects model was used. MAIN RESULTS: Twelve trials (total of 6814 women) were included. Planned management was generally induction with oxytocin or prostaglandin, with one trial using homeopathic caulophyllum. Overall, no differences were detected for mode of birth between planned and expectant groups: relative risk (RR) of caesarean section 0.94, 95% confidence interval (CI) 0.82 to 1.08 (12 trials, 6814 women); RR of operative vaginal birth 0.98, 95% 0.84 to 1.16 (7 trials, 5511 women). Significantly fewer women in the planned compared with expectant management groups had chorioamnionitis (RR 0.74, 95% CI 0.56 to 0.97; 9 trials, 6611 women) or endometritis (RR 0.30, 95% CI 0.12 to 0.74; 4 trials, 445 women). No difference was seen for neonatal infection (RR 0.83, 95% CI 0.61 to 1.12; 9 trials, 6406 infants). However, fewer infants under planned management went to neonatal intensive or special care compared with expectant management (RR 0.72, 95% CI 0.57 to 0.92, number needed to treat 20; 5 trials, 5679 infants). In a single trial, significantly more women with planned management viewed their care more positively than those expectantly managed (RR of "nothing liked" 0.45, 95% CI 0.37 to 0.54; 5031 women). AUTHORS’ CONCLUSIONS: Planned management (with methods such as oxytocin or prostaglandin) reduces the risk of some maternal infectious morbidity without increasing caesarean sections and operative vaginal births. Fewer infants went to neonatal intensive care under planned management although no differences were seen in neonatal infection rates. Since planned and expectant management may not be very different, women need to have appropriate information to make informed choices.

Source: MEDLINE

Full Text: Available in fulltext at Wiley InterScience.

5. Protocol for the immediate delivery versus expectant care of women with preterm prelabour rupture of the membranes close to term (PPROMT) Trial [ISRCTN44485060].

Author(s): Morris JM, Roberts CL, Crowther CA, Buchanan SL, Henderson-Smart DJ, Salkeld G

Citation: BMC Pregnancy & Childbirth, 2006, vol./is. 6/(9), 1471-2393

Publication Date: 2006

Abstract: BACKGROUND: Preterm prelabour rupture of membranes (PPROM) complicates up to 2% of all pregnancies and is the cause of 40% of all preterm births. The optimal management of women with PPROM prior to 37 weeks, is not known. Furthermore, diversity in current clinical practice suggests uncertainty about the appropriate clinical management. There are two options for managing PPROM, expectant management (a wait and see approach) or early planned birth. Infection is
the main risk for women in which management is expectant. This risk need to be balanced against the risk of iatrogenic prematurity if early delivery is planned. The different treatment options may also have different health care costs. Expectant management results in prolonged antenatal hospitalisation while planned early delivery may necessitate intensive care of the neonate for problems associated with prematurity. METHODS/DESIGN: We aim to evaluate the effectiveness of early planned birth compared with expectant management for women with PPROM between 34 weeks and 366 weeks gestation, in a randomised controlled trial. A secondary aim is to assess the economic impact of the two treatment options and establish treatment preferences of women with PPROM close to term. The early planned birth group will be delivered within 24 hours according to local management protocols. In the expectant management group birth will occur after spontaneous labour, at term or when the attending clinician feels that birth is indicated according to usual care. Approximately 1812 women with PPROM at 34-366 weeks gestation will be recruited for the trial. The primary outcome of the study is neonatal sepsis. Secondary infant outcomes include respiratory distress, perinatal mortality, neonatal intensive care unit admission, assisted ventilation and early infant development. Secondary maternal outcomes include chorioamnionitis, postpartum infection treated with antibiotics, antepartum haemorrhage, induction of labour, mode of delivery, maternal satisfaction with care, duration of hospitalisation, and maternal wellbeing at four months postpartum. DISCUSSION: This trial will provide evidence on the optimal care for women with PPROM close to term (34-37 weeks gestation). Consideration of both the clinical and economic sequela of the management of PPROM will enable informed decision making and guideline development.

Source: MEDLINE

Full Text:

Available in fulltext at BioMedCentral

Available in fulltext at National Library of Medicine


Author(s): Buchanan S, Crowther C, Morris J

Citation: Australian & New Zealand Journal of Obstetrics & Gynaecology, October 2004, vol./is. 44/5(400-3), 0004-8666

Publication Date: October 2004

Abstract: BACKGROUND: Preterm prelabour rupture of the membranes (PPROM) complicates 1-2% of all pregnancies. Risks of remaining in utero need to be balanced against the risks of iatrogenic prematurity if early birth is planned. AIMS: To assess and further define the current management of women with pregnancies complicated with PPROM in Australia. METHODS: A mail out questionnaire was sent to all Australian Members and Fellows of the Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG). Results: There were 731 responses from RANZCOG Fellows and Members. Corticosteroids were used routinely in the setting of PPROM by 99% (95% confidence intervals (CI) 98.4-100.0%) of obstetricians. Tocolysis was used commonly by 75% (95% CI 98.4-100.0%). Antibiotics are also used routinely by 63% (95% CI 58.8-67.3%) of Australian obstetricians. For women presenting with PPROM less than 34 weeks’ gestation 56% (95% CI 48.1-60.0%) of obstetricians would plan to deliver these women prior to term, while for women presenting with PPROM greater than 34 weeks’ gestation 50% (95% CI 46.0-54.8%) would offer delivery to such women prior to term. CONCLUSIONS: There is significant variation in clinical practice in the management of women who present with PPROM in Australia. There is little consensus regarding the optimal timing of delivery for babies of women with pregnancies complicated with PPROM. The present survey supports the need and feasibility of a randomised controlled trial to assess the
appropriate gestation at which to deliver women with PPROM near to term.

Source: MEDLINE

7. **Prelabor rupture of the membranes at term: when to induce labor?**

Author(s): Ezra Y, Michaelson-Cohen R, Abramov Y, Rojansky N

Citation: European Journal of Obstetrics, Gynecology, & Reproductive Biology, July 2004, vol./is. 115/1(23-7), 0301-2115

Publication Date: July 2004

Abstract: OBJECTIVES: To determine the significant predictors of clinical chorioamnionitis and neonatal infection in patients with prelabor rupture of the membranes at term, and to apply this information to determination of optimal timing of labor induction. STUDY DESIGN: A retrospective case control series of women at > or =37 weeks' with prelabor rupture of the membranes. The study group consisted of women with evidence of maternal or neonatal infection. Controls had no evidence of infection. Three types of management were compared: (1) Immediate induction of labor, (2) expectant management up to 24 h followed by induction of labor if still necessary, or (3) expectant management for over 24 h. Univariate and multivariate analyses were performed by stepwise logistic regression (SPSS software package). The size of the study and the control groups was calculated for a 90% power with two sided P value of 0.05 in order to demonstrate an odds ratio of 2 for expectant management (two groups: early and late) versus immediate induction of labor (132 and 279 women in the study and the control groups, respectively). RESULTS: The rate of expectant management for over 24 h versus expectant management until 24 h followed by induction of labor when still necessary, was higher among cases than among controls ( OR = 1.84; P < 0.017; 95% CI, 1.127-3.003). Conversely, the rate of immediate induction of labor versus expectant management until 24 h followed by induction of labor when still necessary, was also higher among cases ( OR = 2.66; P < 0.001; 95% CI, 0.222-0.644). CONCLUSION: In women with prelabor rupture of the membranes at term, the best approach is to induce labor if spontaneous labor has not begun after 24 h.

Source: MEDLINE

8. **Active management of term prelabour rupture of membranes with oral misoprostol.**

Author(s): Shetty A, Stewart K, Stewart G, Rice P, Danielian P, Templeton A

Citation: BJOG: An International Journal of Obstetrics & Gynaecology, December 2002, vol./is. 109/12(1354-8), 1470-0328

Publication Date: December 2002

Abstract: OBJECTIVE: To compare the active management of term prelabour rupture of membranes with oral misoprostol with conservative management for 24 hours followed by induction with oxytocin or prostaglandin E(2) (PGE(2)) gel. DESIGN: A non-blinded randomised controlled trial. SETTING: Induction and labour wards, Aberdeen Maternity Hospital. POPULATION: Sixty-one women with confirmed prelabour rupture of the membranes at > or =36 weeks of gestation. METHODS: The women were randomised to 50 microg of oral misoprostol repeated every 4 hours, if required, to a maximum of five doses (active group), or to induction of labour with PGE(2) gel or oxytocin only if not in spontaneous labour 24 hours after prelabour rupture of membranes (conservative group). MAIN OUTCOME MEASURES: Number of women in active labour within 24 hours of the prelabour rupture of membranes, preference of women for any one particular method of management in any subsequent pregnancy with prelabour rupture of membranes. RESULTS: 93.3% of the active group and 54.8% of the conservative group were in spontaneous labour within 24 hours of the prelabour
rupture of membranes (RR 1.7, 95% CI 1.2 to 2.4). Of those achieving a vaginal delivery, 72% of the active group did so within 24 hours of the prelabour rupture of membranes as compared with 26.9% of the conservative group (RR 2.7, 95% CI 1.4 to 5.3, P = 0.002). There were no significant differences in the neonatal or maternal outcomes. In the active group, 78% felt they would have the same method of induction as compared with 40% in the conservative group (RR 1.9, 95% CI 1.1 to 3.3, P = 0.03).

CONCLUSIONS: Active management with oral misoprostol resulted in more women going into labour and delivering within 24 hours of the prelabour rupture of membranes with no increase in maternal or neonatal complications. Women tended to view active management of prelabour rupture of membranes more positively. Oral misoprostol might be an option to consider in those wishing active management.

Source: MEDLINE

Full Text:
Available in fulltext at Grantham Hospital Staff Library; Note: NHS Athens username and password
Available in fulltext at Pilgrim Hospital Staff Library; Note: NHS Athens username and password
Available in print at

9. The impact of clinical management type on maternal and neonatal outcome following prelabour rupture of membranes at term.

Author(s): Jomeen J, Martin CR

Citation: Clinical Effectiveness in Nursing, 01 March 2002, vol./is. 6/1(3-9), 13619004
Publication Date: 01 March 2002
Source: CINAHL

Full Text:
Available in print at

10. Prelabor rupture of the membranes at term: Expectant management at home or in hospital?

Author(s): Hannah M.E., Hodnett E.D., Willan A., Foster G.A., Di Cecco R., Helewa M.

Citation: Obstetrics and Gynecology, October 2000, vol./is. 96/4(533-538), 0029-7844
Publication Date: October 2000

Abstract: Objective: To determine whether adverse effects of expectant management for premature rupture of membranes (PROM) at term and patient satisfaction were greater if women were managed at home rather than in a hospital. Methods: We undertook a secondary analysis of data from the International TermPROM Study for women managed expectantly at home or in a hospital. Using multiple logistic regression analyses, we determined the effect of home and hospital management and controlled for differences in baseline characteristics, in measures of maternal and neonatal infections and rates of cesarean. Results: Six hundred fifty-three women (39.1%) were managed at home, and 1017 (60.9%) in a hospital. Management at
home, compared with in a hospital, increased risk of nulliparas needing antibiotics before delivery (odds ratio [OR] 1.52 95% confidence interval [CI] 1.04, 2.24, P = .03), those not colonized with group B streptococcus having cesareans (OR 1.48 95% CI 1.03, 2.14, P = .04), and neonatal infections (OR 1.97 95% CI 1.00, 3.90, P = .05). 

More multiparas managed at home said they would participate in the study again (OR 1.80 95% CI 1.27, 2.54, P < .001). Conclusion: Expectant management at home, rather than in a hospital, might increase the likelihood of some adverse outcomes. (C) 2000 by The American College of Obstetricians and Gynecologists.

Source: EMBASE

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11. Prelabor rupture of the membranes at term: High maternal and neonatal morbidity under expectant management

Author(s): Rathmer L., Scheidel P.

Citation: Zeitschrift fur Geburtshilfe und Neonatologie, 2000, vol./is. 204/2(43-48), 0948-2393

Publication Date: 2000

Abstract: Few procedures are less standardised than the procedure in case of prelabour rupture of the membranes at term (PROM). We propose that management should be reviewed regularly on the basis of one's own data and be modified accordingly if necessary. For the duration of three months we analysed 400 pregnancies retrospectively. Patients with PROM were observed expectantly for 24 hours. If there were no spontaneous uterine contractions, labour was induced, depending on the degree of cervical dilatation. 10 percent of the cases studied had PROM. Of these a high proportion of 73 percent were primigravida, likewise 73 percent had an unripe cervix. The average time between PROM and delivery was 27 h. 50 percent of the babies were born 24 h after PROM. If delivery occurred more than 24 h after PROM, the rate of caesarean section (15 vs. 30 percent), the rate of forceps deliveries (11 vs. 20 percent), the rate of amnionitis (16 vs. 35 percent) and the number of admissions to the newborn-ICU (16 vs. 25 percent) almost doubled. The patients were examined vaginally relatively often prior to delivery (up to 18 times, with a mean of 8 times). We therefore recommend active management 6-8 h after PROM, should there be no onset of spontaneous uterine contractions. This is particularly beneficial to primigravida with an unripe cervix.

Source: EMBASE

12. Prelabour rupture of the membranes at term--no advantage of delaying induction for 24 hours.

Author(s): Akyol D, Mungan T, Unsal A, Yuksel K

Citation: Australian & New Zealand Journal of Obstetrics & Gynaecology, August 1999, vol./is. 39/3(291-5), 0004-8666

Publication Date: August 1999

Abstract: We performed a prospective randomized study to compare maternal and
fetal outcomes in pregnancies with prelabour rupture of the membranes (PROM) at term with early induction of labour or expectant management, 126 women with singleton pregnancy, cephalic presentation and gestational duration > or = 37 weeks, were randomized either to immediate induction of labour with oxytocin (Group 1) (n=52), or conservative management (Group 2) (n=74). Women who constituted Group 2 were divided into 2 groups. The first group (Group 2A) (n=25) included women in whom spontaneous labour did not begin after a waiting period of 24 hours, in which case labour was induced with oxytocin i.e. expectant management. The second group consisted of women (Group 2B) (n=49) in whom labour began spontaneously within 24 hours. The base Caesarean section rate was significantly higher in Group 2 (28.4%) (p<0.05). The rates of Caesarean section in the Groups 1-2A-2B were 19.2%, 60%, and 12.2%, respectively for nulliparous and parous women together. The rate of fetal distress was significantly higher in Group 2 (p<0.05). For determining maternal outcomes, the other parameters such as clinical chorioamnionitis, fever before or during labour, receiving antibiotics before or during labour, postpartum fever, analgesia, anaesthesia did not differ in Groups 1 and 2. Women in Group 1 went into active labour sooner, had fewer digital vaginal examinations, had a shorter interval between membrane rupture and delivery, and spent less time in the hospital before delivery than those in Group 2 (p<0.05). Babies in Group 2 were more likely to receive antibiotics, and more likely to stay in an intensive care nursery for more than 24 hours, and more likely to receive ventilation after initial resuscitation than those babies in Group 1. For developing apnoea and hypotonia, there was no significant difference between Groups 1 and 2. However, for babies in Group 2A there was a significant difference. We conclude that immediate induction of labour with oxytocin does not increase the risk of Caesarean section, compared with a practice of expectant management. Women at term with prelabour rupture of the membranes should therefore be reassured that immediate induction with oxytocin currently appears to be the best policy with respect to maternal and neonatal morbidity.

Source: MEDLINE

13. Women's evaluations of induction of labor versus expectant management for prelabor rupture of the membranes at term. TermPROM Study Group

Author(s): Hodnett ED, Hannah ME, Weston JA, Ohlsson A, Myhr TL, Wang EE, Hewson SA, Willan AR, Farine D

Citation: Birth, December 1997, vol./is. 24/4(214-20), 0730-7659

Publication Date: December 1997

Abstract: BACKGROUND: Induction of labor has become common practice in many Western countries, but few studies have assessed women's views. METHODS: A randomized, controlled trial was conducted at 72 hospitals in six countries. Five thousand forty-one women meeting eligibility criteria, with no contraindications for induction of labor or expectant management, were randomly assigned to four groups: induction with intravenous oxytocin, induction with vaginal prostaglandin E2 gel, or expectant management followed by induction with either oxytocin or with prostaglandin E2 gel if complications developed. The three main outcome measures were evaluations of the treatment received, perceived control during childbirth, and evaluations of the experience of trial participation. RESULTS: Questionnaires were completed by 81.9 percent of the sample. No significant differences occurred between the two induction groups. Compared with the expectant management groups, induced women were less likely to report there was nothing they liked about their treatment and less likely to report that the treatment caused additional worry. No between-group differences occurred in experienced control during childbirth. Women in the induction groups were more likely to be willing to participate in the study again and to feel reassured. CONCLUSIONS: Women's preferences should be considered when making decisions about their method of management when membranes rupture before labor. Obtaining participants' views is both feasible and worthwhile when evaluating forms of medical care.
14. **Induction of labour versus expectant management for prelabour rupture of the membranes at term: an economic evaluation. TERMPROM Study Group. Term Prelabour Rupture of the Membranes**

**Author(s):** Gafni A, Goeree R, Myhr TL, Hannah ME, Blackhouse G, Willan AR, Weston JA, Wang EE, Hodnett ED, Hewson SA, Farine D, Ohlsson A

**Citation:** CMAJ Canadian Medical Association Journal, December 1997, vol./is. 157/11(1519-25), 0820-3946

**Publication Date:** December 1997

**Abstract:** BACKGROUND: As the interval between rupture of the fetal membranes at term and delivery increases, so may the risk of fetal and maternal infection. Recently the TERMPROM (Term Prelabor Rupture of the Membranes) Study Group reported the results of a randomized controlled trial comparing 4 management strategies: induction with oxytocin (IwO), induction with prostaglandin (IwP), and expectant management and induction with either oxytocin (EM-O) or prostaglandin (EM-P) if complications developed. The study found no statistically significant differences in neonatal infection and cesarean section rates between any of the 4 groups. OBJECTIVE: To conduct an economic evaluation comparing the cost of (a) IwO and EM-O, (b) IwP and EM-P and (c) IwO and IwP. DESIGN: An economic analysis, conducted alongside the clinical trial, using a third-party payer perspective. Analysis included all treatment costs incurred for both the mother and the baby. Information on health care utilization and outcomes was collected for all study participants. Three countries (Canada, the United Kingdom and Australia), corresponding to the largest study recruitment, were chosen for calculation of unit costs. For each country, the base, low and high estimates of unit cost for each service item were generated. Intention-to-treat analysis. Extensive statistical and sensitivity analyses were performed. RESULTS: The median cost of IwO per patient was significantly lower statistically than that of EM-O and IwP. This result held in all 3 countries compared -$114 and -$46 in Canada, -113 Pounds and -63 Pounds in the UK, and -A$30 and -A$49 in Australia) and after an extensive sensitivity analysis.

There was no statistically significant difference in median cost per patient between IwP and EM-P. CONCLUSION: Although the clinical results of the TERMPROM study did not find IwO to be preferable to the other treatment alternatives, the economic evaluation found it to be less costly. However, these cost differences, even though statistically significant, are not likely to be important in many countries. When this is the case, the authors recommend that women be offered a choice between management strategies.

**Source:** MEDLINE

**Full Text:**

Available in fulltext at [Highwire Press](#)

Available in fulltext at [National Library of Medicine](#)

15. **Prelabour rupture of membranes at term: early induction of labour versus expectant management.**

**Author(s):** Alcalay M, Hourvitz A, Reichman B, Luski A, Quint J, Barkai G, Mashiach S, Lipitz S

**Citation:** European Journal of Obstetrics, Gynecology, & Reproductive Biology, December 1996, vol./is. 70/2(129-33), 0301-2115

**Publication Date:** December 1996

**Abstract:** OBJECTIVES: To compare expectant management with early induction of
labour in pregnant patients with prelabour rupture of membranes at term and unfavourable cervix. STUDY DESIGN: A prospective, randomised study of 154 women with prelabour rupture of membranes at term of whom 80 had been managed expectantly, and 74 had undergone oxytocin induction at a rate of 2.5 mU/min. Digital examination was not performed before oxytocin infusion, and the first was delayed until 4 h (nulliparae), or 2 h (multiparae) of regular uterine contractions. RESULTS: The mean period from rupture of membranes to delivery was significantly shorter in the induction group. The mean duration of labour was significantly shorter in the expectant group. Operative vaginal deliveries were more common in the induction group, and fetal distress was the most common cause of operative vaginal deliveries. The caesarean rates were low and similar in both groups. Maternal and neonatal infectious morbidity was similar and no difference was found in the length of hospitalisation. CONCLUSIONS: Expectant management in patients with ruptured membranes at term is safe and reduces the frequency of operative vaginal deliveries.

Source: MEDLINE

16. Induction of labor compared with expectant management for prelabor rupture of the membranes at term. TERMPROM Study Group

Author(s): Hannah ME, Ohlsson A, Farine D, Hewson SA, Hodnett ED, Myhr TL, Wang EE, Weston JA, Willan AR

Citation: New England Journal of Medicine, April 1996, vol./is. 334/16(1005-10), 0028-4793

Publication Date: April 1996

Abstract: BACKGROUND. As the interval between rupture of the fetal membranes at term and delivery increases, so may the risk of fetal and maternal infection. It is not known whether inducing labor will reduce this risk or whether one method of induction is better then another. METHODS. We studied 5041 women with prelabor rupture of the membranes at term. The women were randomly assigned to induction of labor with intravenous oxytocin; induction of labor with vaginal prostaglandin E2 gel; or expectant management for up to four days, with labor induced with either intravenous oxytocin or vaginal prostaglandin E2 gel if complications developed. The primary outcome was neonatal infection. Secondary outcomes were the need for cesarean section and women's evaluations of their treatment. RESULTS. The rates of neonatal infection and cesarean section were not significantly different among the study groups. The rates of neonatal infection were 2.0 percent for the induction-with-oxytocin group, 3.0 percent for the induction-with-prostaglandin group, 2.8 percent for the expectant-management (oxytocin) group, and 2.7 percent for the expectant-management (prostaglandin) group. The rates of cesarean section ranged from 9.6 to 10.9 percent. Clinical chorioamnionitis was less likely to develop in the women in the induction-with-oxytocin group than in those in the expectant-management (oxytocin) group (4.0 percent vs. 8.6 percent, P<0.001), as was postpartum fever (1.9 percent vs. 3.6 percent, P=0.008). Women in the induction groups were less likely to say they liked "nothing" about their treatment than those in the expectant-management groups. CONCLUSIONS. In women with prelabor rupture of the membranes at term, induction of labor with oxytocin or prostaglandin E2 and expectant management result in similar rates of neonatal infection and cesarean section. Induction of labor with intravenous oxytocin results in a lower risk of maternal infection than does expectant management. Women view induction of labor more positively than expectant management.

Source: MEDLINE

Full Text:
Available in selected fulltext at Highwire Press
Available in fulltext at Ovid
17. **Controlled comparison of induction versus expectant care for prelabor rupture of the membranes at term.**

**Author(s):** Ottervanger HP, Keirse MJ, Smit W, Holm JP

**Citation:** Journal of Perinatal Medicine, 1996, vol./is. 24/3(237-42), 0300-5577

**Publication Date:** 1996

**Abstract:** This randomized clinical trial compared oxytocin induction of labor with expectant care for 48 hours after prelabor rupture of the membranes at term. Women at term with prelabor rupture of the membranes for at least 8 hours were assigned at random to induction with oxytocin or to expectant management for 48 hours followed by induction if necessary. Of 168 eligible women, 123 (73%) agreed to participate. More women in the induction group (23%) than in the expectant group (10%) had operative delivery, either cesarean section or instrumental vaginal delivery. In the induction group 41% received analgesia versus 24% in the expectant group (p < 0.005). There was no difference in the rate of maternal and neonatal infection between groups and sepsis was not observed. The active policy of oxytocin induction exposed the mother to a higher risk of operative delivery and a less comfortable labor than the 48 hours expectant care option.

**Source:** MEDLINE

18. **Controversies: premature rupture of membranes at term--no advantage of delaying induction > 24 hours.**

**Author(s):** Ingemarsson I

**Citation:** Journal of Perinatal Medicine, 1996, vol./is. 24/6(573-9), 0300-5577

**Publication Date:** 1996

**Abstract:** Results from randomised trials with formal randomisation indicate no evidence of benefits in terms of cesarean delivery of maternal/neonatal infectious morbidity by awaiting spontaneous onset of labor for more than 24 hours in women with term PROM. An overnight policy of management seems to be an attractive alternative to other management protocols. Women with prelabor rupture of membranes await stimulation of labor with oxytocin till next morning if admitted before midnight. A majority of the women may go into spontaneous labor with an excellent prospect of having a vaginal delivery. Particularly the nulliparous woman with poor cervical score could benefit from such an approach. Although prostaglandins in theory should be an useful adjunct agent to oxytocin, particularly in the nulliparous woman with unripe cervix, convincing evidence of the efficacy of the drug is still lacking. Well-conducted and randomised studies to evaluate the role of prostaglandins in nulliparous women with PROM are required.

**Source:** MEDLINE
**expectant management.**

**Author(s):** Keirse MJ, Ottervanger HP, Smit W

**Citation:** Journal of Perinatal Medicine, 1996, vol./is. 24/6(563-72), 0300-5577

**Publication Date:** 1996

**Abstract:** Review of the controlled comparisons between induction of labor and expectant care after prelabor rupture of the membranes (PROM) at term indicates that they are not unhelpful for deciding which of the two options is best. This is, first, because there is a large potential for bias in the studies reported thus far. Second, the trials are rather heterogeneous and they are comparisons more between early and late induction than between induction and expectant care. Third, it is difficult to weigh an increased risk of operative delivery with the induction policy against an apparently clear, but almost certainly biased, reduction of neonatal infection. With expectant care about 70% of women will give birth within 24 hours and 85% within 48 hours. The majority of these women will derive little, if any, benefit from induction and a routine policy of induction of labor after PROM cannot be justified on the basis of the data that are available.

**Source:** MEDLINE

**20. Antimicrobial therapy in expectant management of preterm premature rupture of the membranes**

**Author(s):** Mercer BM, Arheart KL

**Citation:** Lancet, November 1995, vol./is. 346/8985(1271-9), 0140-6736

**Publication Date:** November 1995

**Abstract:** We review the impact of antimicrobial treatment on maternal and fetal outcome during expectant management of preterm premature rupture of the membranes. Relevant studies were retrieved from Medline (1966 to August, 1994) with the search term fetal-membrane-premature-rupture and antibiotics or antimicrobial, Excerpta Medica (1972 to August, 1994) with the search term premature fetus, membrane rupture, and antibiotic or antimicrobial therapy, and the Cochrane database of systemic reviews with the criterion antibiotics and prelabour rupture of membranes. We also obtained unpublished data from a randomised clinical trial of ceftriaxone versus placebo. The selected studies were randomised controlled trials of systemic antimicrobial therapy for prolongation of gestation in non-labouring women after preterm premature rupture of the membranes. Data extraction was done by a single reviewer. Studies were evaluated for post-randomisation exclusion and other confounding variables that might introduce analytical bias. Analysis was done with SAS statistical software by a blinded investigator. Antimicrobial therapy after preterm premature rupture of the membranes is associated with a reduced number of women delivering within 1 week (62 vs 76%; OR 0.51, 95% CI 0.41-0.68), and reduced diagnosis of maternal morbidity including chorioamnionitis (12 vs 23%; 0.45, 0.33-0.60) and postpartum infection (8 vs 12%; 0.63, 0.41-0.97). Fetal morbidity, including confirmed sepsis (5 vs 9%; 0.57, 0.36-0.88); pneumonia (1 vs 3%; 0.32, 0.11-0.96), and intraventricular haemorrhage (9 vs 14%; 0.65, 0.45-0.92) were less often diagnosed after antimicrobial therapy. Separate analysis of the six placebo-controlled trials revealed similar or improved odds of pregnancy prolongation, chorioamnionitis, neonatal sepsis, postpartum infection, positive infant blood cultures, and pneumonia. Antimicrobial therapy, when used in the expectant management of preterm premature rupture of the membranes is associated with prolongation of pregnancy and a reduction in the diagnosis of maternal and infant morbidity. Further study should be directed towards determination of optimal antimicrobial therapy, increasing pregnancy prolongation, and enhancement of corticosteroid therapy for induction of pulmonary maturity after preterm premature rupture of the membranes.

Author(s): Mahmood TA, Dick MJ

Citation: Obstetrics & Gynecology, January 1995, vol./is. 85/1(71-4), 0029-7844

Abstract: OBJECTIVE: To compare conservative management of pre-labor spontaneous rupture of membranes (SROM) with the use of prostaglandin (PG) E2 in healthy parous women at term (gestational age at least 37 weeks). METHODS: An open randomized study was conducted with 100 parous women; 50 were treated conservatively for 24 hours, and 50 were managed actively using PGE2 gel (1 mg), administered at admission and repeated 6 hours later if labor was not established. Both groups received intravenous oxytocin if labor did not start within 24 hours after admission. RESULTS: The use of PGE2 gel led to a significant reduction in the mean interval (+/- standard error of the mean) from SROM to onset of labor: 17.26 +/- 1.51 hours in the conservative group versus 6.50 +/- 1.23 in the PGE2 group. A significantly smaller proportion of subjects required oxytocin in the PGE2 group (12 versus 38%, P < .02). The two groups were comparable with respect to analgesic requirements. Within 24 hours of SROM, 80% of the women in the PG group and 56% in the conservative group had delivered (P < .02). Most women delivered vaginally, 96% of those managed conservatively and 100% of those managed actively with PGE2. CONCLUSION: Active management using PGE2 gel in parous women with pre-labor SROM significantly improves the time to delivery without influencing the cesarean rate or fetal-maternal infective morbidity.

Source: MEDLINE

Full Text: Available in print at Grantham Hospital Staff Library

Other research you may find useful

1. Pre-term pre-labour rupture of membranes: effect of chorioamnionitis on overall neonatal outcome.

Author(s): Oboro VO, Adekanle BA, Apantaku BD, Onadipe OA

Citation: Journal of Obstetrics & Gynaecology, November 2006, vol./is. 26/8(740-3), 0144-3615

Abstract: Our objective was to evaluate the association between clinical chorioamnionitis following preterm pre-labour rupture of membranes (PPROM) and adverse neonatal outcome. We compared retrospectively, adverse neonatal outcome of singleton pregnancies with documented PPROM who developed chorioamnionitis
(cases) with those who did not (controls). Our result showed that poor neonatal outcome was significantly associated with chorioamnionitis (34% vs 13%; p = 0.008). This association was found on multiple logistic regression analysis to be independent (p < 0.05) of other risk factors for poor neonatal outcome, viz: latency period (p = 0.002) and gestational age at delivery (p < 0.001). We conclude that chorioamnionitis complicating PPROM worsen neonatal outcome. The implication of this on expectant management of PPROM is discussed.

Source: MEDLINE

2. Late pre-term (32-36 weeks) birth in a North London hospital

Author(s): Selo-Ojeme D.O., Tewari R.

Citation: Journal of Obstetrics and Gynaecology, October 2006, vol./is. 26/7(624-626), 0144-3615;1364-6893

Publication Date: October 2006

Abstract: Most of the complications of pre-term delivery arise in the 1 - 2% of births before 32 weeks' gestation. However, late pre-term birth (32 - 36 weeks' gestation) is still worrying for the mother and clinician. In a retrospective study that compared the management and outcome of 103 singleton pregnancies delivered between 32 and 36 weeks' of gestation with 103 age-matched controls that delivered at term, a short inter-pregnancy interval, early pregnancy bleeding, pre-labour spontaneous rupture of membranes, a history of pre-term delivery and Asian race or single marital status were found to be significant factors. The groups did not differ in parity, BMI, smoking status or history of miscarriages and terminations. Following a logistic regression analysis, the following emerged as risk factors for late pre-term delivery; a history of previous pre-term delivery (OR = 7.2; 95% CI 1.6-33.2), a short (< 12 months) inter-pregnancy interval (OR = 4.1; 95% CI 2.2-7.5), early pregnancy bleeding (OR = 7.6; 95% CI 1.3-38.3) and pre-labour spontaneous rupture of membranes (OR = 13.3, 95% CI 3.1-55.2). copyright 2006 Informa UK Ltd.

Source: EMBASE


Author(s): Mozurkewich E

Citation: Clinical Obstetrics & Gynecology, September 2006, vol./is. 49/3(672-83), 0009-9201

Publication Date: September 2006

Abstract: The clinical management of premature rupture of membranes (PROM) at term has been a matter of considerable controversy. Management options have included expectant management or induction of labor with oxytocin, dinoprostone (PGE2), or misoprostol. Early studies suggested that immediate oxytocin induction of labor might reduce maternal and neonatal infections while increasing risk for cesarean section. The definitive TermPROM study found no difference in neonatal infections between immediate and delayed induction with oxytocin and PGE2. However, neither PGE2 nor delayed induction resulted in fewer cesarean sections than immediate oxytocin. Misoprostol offers several theoretical advantages over oxytocin in the setting of PROM at term. However, randomized trials to date have found no significant advantage for misoprostol administration compared with other agents for women with PROM.

Source: MEDLINE

Full Text:
Available in fulltext at Ovid

Available in fulltext at Ovid

4. Uterine contraction assessment

Author(s): Newman R.B.

Citation: Obstetrics and Gynecology Clinics of North America, September 2005, vol./is. 32/3(341-367), 0889-8545

Publication Date: September 2005

Abstract: The frustrating aspect of evidence-based medicine is that the evidence frequently generates more questions than it answers. The currently available basic and clinical data suggest that HUAM with or without perinatal nursing contact can reduce the risk of preterm birth and improve perinatal outcomes. Failures in the battle against preterm delivery probably arise from the more global failure to understand the complexities of prematurity and its treatment. There is a need to understand better the enigmatic and powerful forces that initiate the cascade of events leading to preterm labor and how to identify women experiencing that cascade. Better treatments are needed to interrupt the cascade, to arrest preterm labor, and prevent its recurrence. Finally, better measures of successful treatment are needed. The yardstick of delivery before or at term is too crude a parameter to measure successful obstetric interventions. In the meantime, however, credit should be given to HUAM where credit is due. It accurately identifies prelabor uterine activity that is present throughout the latter half of gestation, usually below the threshold of patient self-detection. HUAM has the capability of making the diagnosis of preterm labor earlier than does the patient left to her own perceptive capabilities. This seems to be a consequence of an increase in mild to moderate uterine contraction frequency that occurs 24 to 28 hours before the patient-identified diagnosis of preterm labor. HUAM has been shown to reduce the risk of preterm birth, improve the gestational age at delivery, increase birth weight, and improve perinatal outcome in virtually every prospective randomized trial where the comparison group received standard high-risk obstetric care typified by preterm birth prevention education and instruction in the self-palpation of uterine activity. In no study has a surveillance program inclusive of HUAM been associated with an overdiagnosis of preterm labor. The benefits of HUAM, however, cannot be differentiated from other components of the surveillance program, specifically frequent perinatal nursing contact, improved patient access, and the increased rest associated with monitoring. In those studies that have failed to show a benefit associated with HUAM, the control group almost always includes some or all of these added surveillance elements that move the control group beyond the current standard of care for patients at risk for preterm birth. The data are absolutely clear that HUAM and daily nursing contact are superior to routine care for the prevention of preterm birth. This was acknowledged by the ACOG committee opinion of more than a decade ago in 1992 [51]. Yet, despite global failure to reduce the rates of preterm birth in this country and the desperation to find an intervention that is effective in reducing this obstetric risk, very few practices have adopted increased prenatal surveillance using either frequent perinatal nursing contact or HUAM. It seems that preterm birth prevention is going to require a greater effort and cost than society has been willing to expend to date. It is possible that with improved techniques to identify those women at highest risk for preterm birth, with more successful therapies to interrupt the cascade of the preterm labor syndrome, or with better measures of tocolytic success, HUAM might be better recognized as a valuable adjunct to the obstetric management of this problem. copyright 2005 Elsevier Inc. All rights reserved.

Source: EMBASE

5. Induction of labour with a favourable cervix and/or pre-labour rupture of membranes.
Premature rupture of membranes (PROM) occurs in 8% of term deliveries. In this situation labour induction with prostaglandins, compared with expectant management, results in a reduced risk of chorioamnionitis, neonatal antibiotic therapy, neonatal intensive care (NICU) admission, and increased maternal satisfaction. The use of prostaglandin is associated with an increased rate of diarrhoea and use of analgesia/anaesthesia. Compared with oxytocin, prostaglandin induction results in a lower rate of epidural use and internal fetal heart rate monitoring but a greater risk of chorioamnionitis, nausea, vomiting, more vaginal examinations, neonatal antibiotic therapy, NICU admission and neonatal infection. Women should be informed of the risks and benefits of each method of induction. Misoprostol is gaining increasing interest as an alternative induction agent. It appears to be an effective method of labour induction with term PROM. Further research is needed to identify the preferred dosage, route and interval of administration, and to assess uncommon maternal and neonatal outcomes. There has been limited research on the use of prostaglandins, including misoprostol, for induction of labour with a favourable cervix and intact membranes. Compared with intravenous oxytocin (with and without amniotomy), labour induction using vaginal prostaglandins in women with a favourable cervix (with and without PROM) results in a higher rate of vaginal delivery within 24 hours and increased maternal satisfaction. In women with a favourable cervix, artificial rupture of membranes followed by oral misoprostol has similar time to vaginal delivery compared with artificial rupture of membranes followed by oxytocin. Further research with prostaglandins, including misoprostol, is needed to evaluate other maternal and neonatal outcomes in women being induced with a favourable cervix. No form of prostaglandin induction in women with PROM or favourable cervix has proven clearly superior to oxytocin infusion.

Source: MEDLINE

6. Recent evidence associated with the condition of preterm prelabour rupture of the membranes.

Author(s): Lamont RF

Citation: Current Opinion in Obstetrics & Gynecology, April 2003, vol./is. 15/2(91-9), 1040-872X

Publication Date: April 2003

Abstract: PURPOSE OF REVIEW: The published literature on preterm prelabour rupture of the membranes is voluminous yet despite advances in obstetric and neonatal care, the problem remains a major cause of perinatal mortality and morbidity. The purpose of this review is to present recent evidence pertaining to the role of inflammatory mediators such as cytokines and the tissue damage and long-term handicap they cause, the molecular biology and physiology of membrane structure, the role of host susceptibility and the genetics of preterm birth and therapeutic options for the management of preterm prelabour rupture, including antibiotics, amnioinfusion and special situations. RECENT FINDINGS: Neonatal morbidity from preterm prelabour rupture of the membranes is mainly related to oligohydramnios and pulmonary hypoplasia. Occupational factors have a significant effect on the occurrence and outcome following rupture. Matrix metalloproteinases control growth and remodelling of the pregnant uterus, placenta and membranes and are linked to a genetic predisposition to preterm birth through gene expression and variation. Transvaginal ultrasound scan, oncofetal fibronectin and the presence of abnormal genital tract flora (bacterial vaginosis) in pregnancy may help in the prediction of preterm birth.
SUMMARY: Preterm prelabour membrane rupture remains a management problem, particularly at very early gestations, yet obstetric and neonatal care can make a difference to outcome. While at early gestations the prognosis is poor, it is not hopeless. Careful selection of the recent literature on the subject might interest and inform those faced regularly with the problem, prevent therapeutic nihilism, promote confidence in our ability to make a difference and realise that we are not alone when faced with the therapeutic dilemma that is this condition.

Source: MEDLINE

Full Text: Available in fulltext at Ovid

7. [Commentary on] The impact of clinical management on maternal and neonatal outcome following pre-labour rupture of membranes at term II.

Author(s): Hamilton M

Citation: Clinical Effectiveness in Nursing, 01 March 2003, vol./is. 7/1(49-50), 13619004

Publication Date: 01 March 2003

Source: CINAHL

Full Text: Available in print at

8. Oral misoprostol vs. placebo in the management of prelabor rupture of membranes at term.

Author(s): Hoffmann RA, Anthony J, Fawcus S

Citation: International Journal of Gynaecology & Obstetrics, March 2001, vol./is. 72/3(215-21), 0020-7292

Publication Date: March 2001

Abstract: OBJECTIVE: To evaluate the efficacy of oral misoprostol for the induction of labor (IOL) in women with prelabor rupture of membranes at term (PROM) and to monitor maternal or fetal complications. METHOD: This randomized, placebo controlled trial was performed in a secondary referral hospital. The data of 47 patients in the misoprostol--and 49 patients in the placebo group was available for analysis. The former received 100 microg misoprostol orally, repeated once after 6 h if not in active labor, the latter received two doses of vitamin C also after a 6-h interval. The Mann-Whitney U-test was used for analysis. RESULTS: The median treatment to delivery interval in the misoprostol group was 7.5 h and 25 h in the placebo group (P<0.001). No significant differences were found in the incidence of abnormalities on the cardiotocograph, mode of delivery, neonatal outcome, use of antibiotics for the mothers and patient acceptability. CONCLUSION: Oral misoprostol in the suggested dose is an effective and cheap alternative for IOL in patients with PROM. No adverse effects could be demonstrated.

Source: MEDLINE


Author(s): Hansen AR, Collins MH, Genest D, Heller D, Schwarz S, Banagon P, Allred EN, Leviton A
Citation: Pediatric & Developmental Pathology, September 2000, vol./is. 3/5(419-30), 1093-5266

Publication Date: September 2000

Abstract: Our objective was to relate pathology of the very low birthweight (VLBW) infant's placenta to pregnancy and fetal characteristics. We correlated the pathologic features of 1146 placentas from infants with birth weights of 500-1500 g who were born between 1/1/91 and 12/31/93 to the number of gestations per pregnancy, initiator of preterm delivery, gestational age, birth weight Z score, and duration of rupture of membrane (ROM). Placental correlates of acute inflammation and villous edema were associated with preterm labor (PTL), prelabor premature rupture of membranes (PROM), lower gestational age, and higher birth weight Z score. In PTL pregnancies delivered within 1 h of membrane rupture, 61% of placentas already had membrane inflammation. Placental correlates of pregnancy-induced hypertension (PIH) were seen more commonly with PIH pregnancies, older gestational age, and lower birth weight Z score. We found a more prominent histopathologic signature for singleton than for multiple gestation placentas. The placental pathologic findings associated with the clinical diagnoses of infection, PIH, and low-birth weight Z scores in our VLBW/preterm population are similar to those in the literature regarding term pregnancies. The presence of multiple histologic findings consistent with inflammation in placentas of PTL pregnancies with duration of ROM lasting <1 h suggests that some cases of PTL are precipitated by a more long-standing infection than that previously suspected. Morphologic placental features appear to be correlates of the phenomena leading to premature delivery. Examination of the VLBW infant's placenta provides insight into the etiology and management of VLBW/preterm deliveries.

Source: MEDLINE

10. Use of antibiotics in the management of prelabour rupture of the membranes at term.

Author(s): Kennett CV

Citation: Medical Journal of Australia, August 2000, vol./is. 173/4(221-3), 0025-729X

Publication Date: August 2000

Source: MEDLINE

11. Use of antibiotics in the management of prelabour rupture of the membranes at term [5] (multiple letters)

Author(s): Kennett C.V.D., King J.F., Flenady V.J.

Citation: Medical Journal of Australia, August 2000, vol./is. 173/4(221-222), 0025-729X

Publication Date: August 2000

Source: EMBASE

12. Prostaglandins for prelabour rupture of membranes at or near term

Author(s): Tan BP, Hannah ME

Citation: Cochrane Database of Systematic Reviews, 2000, vol./is. /2(CD000178), 1469-493X

Publication Date: 2000

Abstract: BACKGROUND: Induction of labour after prelabour rupture of membranes may reduce the risk of neonatal infection. However an expectant approach may be less
likely to result in caesarean section. OBJECTIVES: The objective of this review was to assess the effects of induction of labour with prostaglandins versus expectant management for prelabour rupture of membranes at or near term. SEARCH STRATEGY: We searched the Cochrane Pregnancy and Childbirth Group trials register. SELECTION CRITERIA: Randomised and quasi-randomised trials comparing early use of prostaglandins (with or without oxytocin) with no early use of prostaglandins in women with spontaneous rupture of membranes before labour, and 34 weeks or more of gestation. DATA COLLECTION AND ANALYSIS: Trials were assessed for quality and data were abstracted. MAIN RESULTS: Fifteen trials were included. Most were of moderate to good quality. Different forms of prostaglandin preparations were used in these trials and it may be inappropriate to combine their results. Induction of labour by prostaglandins was associated with a decreased risk of chorioamnionitis (odds ratio 0.77, 95% confidence interval 0.61 to 0.97) based on eight trials and admission to neonatal intensive care (odds ratio 0.79, 95% confidence interval 0.66 to 0.94) based on seven trials. No difference was detected for rate of caesarean section, although induction by prostaglandins was associated with a more frequent maternal diarrhoea and use of anaesthesia and/or analgesia. Based on one trial, women were more likely to view their care positively if labour was induced with prostaglandins. REVIEWER’S CONCLUSIONS: Induction of labour with prostaglandins appears to decrease the risk of maternal infection (chorioamnionitis) and admission to neonatal intensive care. Induction of labour with prostaglandins does not appear to increase the rate of caesarean section, although it is associated with more frequent maternal diarrhoea and pain relief.

Source: MEDLINE

Full Text: Available in fulltext at Wiley InterScience


Citation: American Journal of Obstetrics & Gynecology, November 1997, vol./is. 177/5(1024-9), 0002-9378

Publication Date: November 1997

Abstract: OBJECTIVES: Our purpose was to determine significant predictors for the development of clinical chorioamnionitis and postpartum fever in patients with prelabor rupture of membranes at term. STUDY DESIGN: Logistic regression analysis with odds ratios and 95% confidence intervals was used to determine the significant predictors of clinical chorioamnionitis and postpartum fever in women with prelabor rupture of membranes at term enrolled in this study. The study recently compared in a randomized controlled trial four strategies of management: induction with oxytocin, induction with prostaglandin, expectant management, and, if failed, induction with oxytocin or prostaglandin. RESULTS: The following variables were significantly associated with clinical chorioamnionitis: (1) number of digital vaginal examinations: > 8, 7 to 8, 5 to 6, 3 to 4 (vs 0 to 2) (odds ratio 5.07, 3.80, 2.62, 2.06); (2) duration of active labor: > or = 12, 9 to < 12, 6 to < 9 hours (vs < 3 hours) (odds ratio 4.12, 2.94, 1.97); (3) meconium-stained amniotic fluid (odds ratio 2.28); (4) parity of 0 (odds ratio 1.80); (5) time from membrane rupture to active labor: > or = 48, 24 to < 48 hours (vs < 12 hours) (odds ratio 1.76, 1.77); and (6) group B streptococcal colonization (odds ratio 1.71). Variables significantly associated with postpartum fever were (1) clinical chorioamnionitis (odds ratio 5.37), (2) duration of active labor: > or = 12, 9 to < 12, 6 to < 9, 2 to < 6 hours (vs < 3 hours) (odds ratio 4.86, 3.53, 3.46, 3.04), (3) cesarean section, operative vaginal delivery (odds ratio 3.97, 1.86), (4) group B streptococcal colonization (odds ratio 2.25), and (5) parity of 0 (odds ratio 1.80).
colonization (odds ratio 1.88), and (5) maternal antibiotics before delivery (odds ratio 1.94). CONCLUSIONS: Increasing numbers of digital vaginal examinations, longer duration of active labor, and meconium staining of the amniotic fluid were the most important risk factors for the development of clinical chorioamnionitis in women with prelabor rupture of membranes at term. The most important risk factors for the development of postpartum fever were clinical chorioamnionitis, increasing duration of active labor, and cesarean section delivery.

Source: MEDLINE


Citation: American Journal of Obstetrics & Gynecology, October 1997, vol./is. 177/4(780-5), 0002-9378

Publication Date: October 1997

Abstract: OBJECTIVES: Our purpose was to determine the effect of induction of labor on neonatal infection if mothers are group B streptococci positive and have prelabor rupture of membranes at term. STUDY DESIGN: In the TermPROM study 5041 women were randomized to induction with intravenous oxytocin, induction with vaginal prostaglandin E2 gel, or expectant management with induction, if needed. Of these, 4834 women had vaginal or introital swabs for group B streptococci taken at entry. We used logistic regression to test for effects of treatment within group B streptococci subgroups. RESULTS: Group B streptococci were predictive of neonatal infection for the induction with vaginal prostaglandin E2 gel and expectant groups but not for the induction with oxytocin group. For women positive for group B streptococci the rates of neonatal infection were 2.5% for the induction with oxytocin group and > 8% for all other groups. CONCLUSIONS: Induction of labor with intravenous oxytocin may be preferable for group B streptococci-positive women with prelabor rupture of membranes at term.

Source: MEDLINE

15. Pre-term pre-labour amniorrhexis.

Author(s): Carroll S, Sebire N, Nicolaides K

Citation: Current Opinion in Obstetrics & Gynecology, December 1996, vol./is. 8/6(441-8), 1040-872X

Publication Date: December 1996

Abstract: In pregnancies complicated by pre-term pre-labour aminorrhexis, there is a risk of intra-uterine infection, which is associated with maternal and perinatal mortality and morbidity. The causes of neonatal death in pregnancies with aminorrhexis are prematurity, pulmonary hypoplasia and sepsis. In the management of pregnancies with pre-term pre-labour aminorrhexis, it is essential to distinguish between those with and without intra-uterine infection. If there is no infection at presentation, it is unlikely that this will develop, and in such cases there is no benefit from hospitalization, bed rest, prophylactic tocolytics or antibiotics. The group with evidence of intra-uterine infection go into spontaneous labour within a few days of aminorrhexis; in this group, the main determinant for the appropriate management is the gestational age at aminorrhexis.

Source: MEDLINE

16. Assessment of fetal fibronectin in cervical secretion in cases of equivocal rupture of the membranes at term.
BACKGROUND: To evaluate if the presence of fibronectin in cervical secretion might provide information on the natural course of equivocal prelabor rupture of membranes (ROM) at term. METHODS: One hundred and sixteen women with a history of prelabor ROM at term but without visible amniotic fluid leakage were included in the study. The presence of fetal fibronectin in cervical secretion was determined by a commercially available kit (ROM check; limit of detection 100 ng/ml). Women with (n=49) and without (n=67) a positive fibronectin test were compared with regard to time interval between presumed membrane rupture and delivery, mode of delivery and fetal distress rates. RESULTS: There was no significant difference in the time interval between presumed ROM and delivery between those with a negative fibronectin test (median: 80 hours) and those with a positive test (median: 64 hours; p=0.28, Mann-Whitney U-test). Neither were there any differences in complicated delivery or fetal distress rates. CONCLUSION: Determination of fetal fibronectin in cervical secretion with the present method is of limited value in the clinical management of patients with equivocal rupture of the membranes.

Source: MEDLINE

17. Vaginal administration of prostaglandin E₂ in premature rupture of the membrane at term with unfavorable cervix. A meta-analysis

Author(s): Carbonne B., Goffinet F., Cabrol D.

Citation: Journal de Gynecologie Obstetrique et Biologie de la Reproduction, 1996, vol./is. 25/8(783-791), 0368-2315

Publication Date: 1996

Abstract: Aim of the study. To compare immediate labor induction by vaginal prostaglandins to immediate labor induction by oxytocin or to expectant management in case of prelabor rupture of the membranes at term. Material and methods. A meta-analysis of all randomized trials indexed in Medline or in the Cochrane Database of Systematic Reviews comparing labor induction by vaginal prostaglandins to labor induction by oxytocin or to expectant management. The statistical analysis was performed according to Deto and Yussuf's modified Mantel Haenszel method. The results were expressed as odds-ratios. Results. Ten published studies meeting the above criteria were found. These trials included 1004 patients. When comparing labor induction by prostaglandins to expectant management, we observed a reduction of the admission-to-delivery interval, a decreased maternal and neonatal infection rate, without difference in the cesarean section rate. When comparing labor induction by vaginal prostaglandins to labor induction by oxytocin, a decreased cesarean section rate was observed without difference in maternal or neonatal infection rates. Conclusion. Immediate labor induction by vaginal prostaglandins provides better maternal and neonatal outcomes than labor induction by oxytocin or expectant management in case of prelabor rupture of the membranes at term.

Source: EMBASE

18. Prelabour rupture of membranes to delivery interval related to the incidence of maternal and neonatal infection.

Author(s): Chua S, Arulkumaran S, Sailes Kumar S, Selamat N, Ratnam SS

Citation: Journal of Obstetrics & Gynaecology, August 1995, vol./is. 21/4(367-72),
Abstract: OBJECTIVE: To assess the infectious morbidity associated with prelabour rupture of membranes (PROM) to delivery interval, and the incidence of maternal and neonatal infection in a population managed by either immediate stimulation or by overnight conservatism. METHOD: A retrospective study of 117 women admitted with PROM to the labour ward in the National University Hospital, Singapore, in the period between June 1990 and May 1991, and who were managed by immediate stimulation or by stimulation after overnight conservatism. Statistical analysis was performed using Chi-square and Student's t-test. RESULTS: More than one third of infants whose mothers had ruptured membranes for > 48 hrs had signs of neonatal infection, compared with an incidence of 8.8% and 8.9%, respectively for those with an interval of < 12 hrs and 12-24 hrs between PROM to delivery. Group B streptococcal infection was a major cause of neonatal infectious morbidity. Clinical evidence of maternal infection occurred in 3 of the 117 women; these patients had an interval between rupture of membranes and delivery of between 24-76 hrs. CONCLUSIONS: Prolongation of PROM to delivery interval for > 48 hrs increases the incidence of infection. Conservative policy of management of PROM at term should aim to deliver the babies < 48 hrs after PROM. The difference in maternal and neonatal infection rates were not significant in the group treated with a policy of overnight conservatism compared with the group in whom labour was stimulated immediately on admission.

Source: MEDLINE