# La Gestione interattiva della minaccia di parto prematuro

Herbert Valensise & Mariarosaria Di Tommaso

MARIA ha 29 anni

E' alla sua prima gravidanza

Felice e contenta va dal suo ginecologo di fiducia

Il dottore la accoglie, la visita, chiede ecografia ed esami di routine

In realta' il medico e' stato un po' veloce nella anamnesi….

Maria era accompagnata dalla mamma e dal fidanzato (contentissimi…)

Maria si vergognava di parlare: non ha detto al dottore che anni prima, con un altro fidanzato, aveva dovuto interrompere la gravidanza indesiderata per ben due volte (con due interruzioni tardive per gravi anomalie)

# Domanda 1

***Questo dato anamnestico***:

1. Non ha alcuna importanza
2. Non è rilevante perche' ha cambiato partner
3. Non va ricordato perche' potrebbe alterare l'emozione della gravidanza iniziale
4. E' importante da tenere in considerazione

REVIEW ARTICLE
Obstetrics

Int J Gynecol Obstet 2020; 150: 17–23

FIGO
International Federation of Gynecology and Obstetrics
the Global Voice for Women's Health

## Risk factors for spontaneous preterm delivery

Teresa Cobo[1,2,*] | Marian Kacerovsky[3,4] | Bo Jacobsson[5,6]

# PTB: fattori rischio

**Table III.** Univariate analysis of risk factors for indicated preterm birth

| Risk factor | Frequency (%) | IPB (%) | Relative risk | | |
|---|---|---|---|---|---|
| | | | Value | 95% CI | Significance |
| Age >30 yr | 14.7 | 8.1 | 2.39 | 1.65-3.48 | $p < 0.001$ |
| Black ethnicity | 62.8 | 4.7 | 1.57 | 1.06-2.32 | $p = 0.024$ |
| Nulliparity | 41.6 | 4.4 | 1.11 | 0.78-1.58 | $p = 0.56$ |
| Education <12 yr | 35.2 | 2.7 | 0.56 | 0.37-0.85 | $p = 0.005$ |
| Previous spontaneous preterm birth | 12.4 | 8.0 | 2.25 | 1.51-3.37 | $p < 0.001$ |
| Previous IPB | 3.6 | 12.4 | 3.27 | 1.90-5.62 | $p < 0.001$ |
| Previous stillbirth | 3.1 | 13.3 | 3.50 | 2.01-6.12 | $p < 0.001$ |
| History medical problems* | 15.6 | 8.5 | 2.60 | 1.80-3.76 | $p < 0.001$ |
| History of diabetes | 3.1 | 10.8 | 2.80 | 1.52-5.17 | $p = 0.004$ |
| Chronic hypertension | 3.9 | 17.4 | 4.89 | 3.20-7.48 | $p < 0.001$ |
| Proteinuria | 1.6 | 21.3 | 5.57 | 3.12-9.95 | $p < 0.001$ |
| History of lung disease† | 4.9 | 9.1 | 2.37 | 1.36-4.10 | $p = 0.002$ |
| History of obstetric problems‡ | 10.4 | 6.5 | 1.71 | 1.08-2.73 | $p = 0.023$ |
| Müllerian duct abnormality§ | 0.4 | 27.3 | 6.80 | 2.55-18.14 | $p = 0.009$ |
| Uterine fibroids | 3.5 | 9.8 | 2.52 | 1.36-4.67 | $p = 0.008$ |
| First-trimester bleeding | 19.6 | 5.8 | 1.56 | 1.06-2.30 | $p = 0.025$ |
| Hospitalization for preterm labor | 0.8 | 16.7 | 4.17 | 1.68-10.39 | $p = 0.015$ |
| Any hospitalization | 6.9 | 8.5 | 2.24 | 1.37-3.67 | $p = 0.001$ |
| Alcohol use in pregnancy | 12.1 | 2.0 | 0.45 | 0.21-0.96 | $p = 0.032$ |

*IBP*, Indicated preterm birth; *CI*, confidence interval.
*Including diabetes, hypertension, and cardiac, endocrine, renal, or lung disease.
†Including acute and chronic lung disease.
‡Including müllerian duct abnormality, diethylstilbestrol exposure, cone biopsy, and uterine myomas.
§Including bicornuate uterus, uterine septum, and double uterus.

| Fattori materni | Fattori ginecologici e/o ostetrici |
|---|---|
| Età <18 anni | Pregressa chirurgia del collo dell'utero |
| Età >40 anni | Pregressa infezione da HPV |
| Storia familiare di PTT | Pregresse RCU |
| Razza nera | Fibromatosi uterina |
| Basso status socio-economico | Endometriosi/adenomiosi |
| Immigrata | Pregresso PPT |
| Basso livello di istruzione | Pregresso AS del II trimestre |
| Limitato accesso alle cure prenatali | Pregresso TC a dilatazione completa |
| Non coniugata | Pregresso secondo stadio prolungato |
| Fumo | Concepimento da PMA |
| Utilizzo sostanze d'abuso | Intervallo tra le gravidanze <6 mesi |
| Stress | Malattie parodontali |
| Basso BMI | Sanguinamento nel I o II trimestre |
| Obesità | Vaginosi batterica |
| Diabete | Infezioni urinarie |

Meis et al., *The preterm prediction study: Risk factors for indicated preterm births*, AJOG, 1998

Domanda 2

***Se il rischio anamnestico fosse stato considerato quale sarebbe stata la indicazione corretta?***

1. Non stancarsi molto

2. Effettuare cervicometria a 16 settimane

3. Effettuare cerchiaggio/pessario

4. Prescrivere Progesterone 200 mg/die (e CL ogni 15 gg)

# PROGESTERONE & P. PRETERMINE

## Rischio Anamnestico

**36 RCTs included** **8523 women**
**12515 infants**

➢ **Progesterone vs placebo for women with a past history of spontaneous PTB**

| | | | | |
|---|---|---|---|---|
| **Perinatal mortality** | 6 studies | N =1453 | RR 0.50 | [95% CI 0.33 to 0.75)] |
| **Preterm birth < 34 weeks** | 5 studies | N = 602 | RR 0.31 | [95% CI 0.14 to 0.69)] |
| **Preterm birth < 37 weeks** | 10 studies | N =1750 | RR 0.55 | [95% CI 0.42 to 0.74)] |
| **Infant birth weight < 2500 g** | 4 studies | N = 692 | RR 0.58 | [95% CI 0.42 to 0.79)] |
| **Use of assisted ventilation** | 3 studies | N = 633 | RR 0.40 | [95% CI 0.18 to 0.90)] |
| **Necrotizing enterocolitis** | 3 studies | N =1170 | RR 0.30 | [95% CI 0.10 to 0.89)] |
| **Neonatal death** | 6 studies | N =1453 | RR 0.45 | [95% CI 0.27 to 0.76)] |
| **Admission to NICU** | 3 studies | N = 389 | RR 0.24 | [95% CI 0.14 to 0.40)] |
| | | | | Statistically significant reduction |
| | 1 study | N= 148 | MD** 4.47 | [95% CI 2.15 to 6.79)]. |
| | | Statistically significant increase in pregnancy prolongation weeks | | |

**No differential effects in terms of route of administration, time of therapy initiation and dose of progesterone for majority of outcomes examined.**

Dodd, JM et al. *Coch Data Syst Rev.2013, Issue 7. DOI: 10.1002/14651858.CD004947.pub3.*

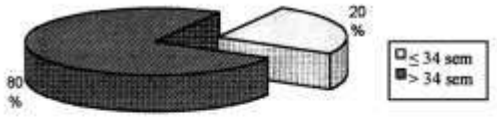



**Fig 1.** Incidence of preterm delivery before 34th week in natural progesterone group.

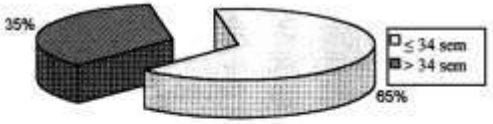



**Fig 2.** Percentage of preterm delivery before 34th week in placebo group.

**Table III.** Incidence of preterm delivery

| | *Placebo (n = 70)* | *Progesterone (n = 72)* | *P value* |
|---|---|---|---|
| <37 wk | 20 (28.5%) | 10 (13.8%) | .03 |
| 34 wk | 13 (18.6%) | 2 (2.8%) | .002 |
| Admission for threatened preterm labor | 22 (31.4%) | 14 (19.4%) | NS |

Fonseca EB, Crvalho MH, Zugaib M. *Prophylactic administration of progesterone by vaginal suppository to reduce the incidence of spontaneous preterm birth in women at increased risk: a randomized placebo-con- trolled double-blind study*. Am J Obstet Gynecol 2003; 188:419-24

# Progesterone nel rischio anamnestico: LG


2017

*Recommendations.* Women with prior history of PTB or late second trimester abortion should be offered 17 OHP-C weekly injection starting early in the 2nd trimester or vaginal progesterone based on individual benefits/risks evaluation with the patient. It should be noted that intramuscular 17 OHP-C has been found to increase by three times the incidence of gestational diabetes in the treated population of pregnant women.


12 reaff 2016

A woman with a singleton gestation and a prior spontaneous preterm singleton birth should be offered progesterone supplementation starting at 16–24 weeks of gestation, regardless of transvaginal ultrasound cervical length, to reduce the risk of recurrent spontaneous preterm birth.


2020

## Raccomandazioni

- MESSAGGI CHIAVE
  L'utilizzo dei Progestageni nella prevenzione del parto prematuro in donne a rischio anamnestico o attuale è controverso.
- Nei casi a rischio in cui si opti per la misurazione seriata, sembra ragionevole effettuarla tra 16 e 24 settimane con un intervallo di 1-2 settimane fra le misurazioni (III A)

# Il medico non fa nulla di tutto questo

- ✓Esegue il test della translucenza nucale:  negativo
- ✓Consiglia anche la ricerca del DNA fetale nel sangue materno
- ✓Aspetta in maschietto evviva!
- ✓Maria prosegue la gravidanza allegramente

- ✓Maria continua la sua gravidanza
- ✓Lavora a "nero" come commessa in un negozio di calzature…fa su e giu' con la scala a prendere i modelli piu' richiesti ma si sente bene
- ✓Solo ogni tanto qualche doloretto continuo sulla vescica…
- ✓Il dottore per whatsapp dice che e' tutto normale

- ✓Questi doloretti sono sempre piu' forti
- ✓Maria torna dal dottore
- ✓Il dottore dopo la visita dice che va tutto bene
- ✓Le da' un po' di magnesio per bocca……

- ✓Una sera all'improvviso i dolori sono sempre piu' forti e Maria non e' convinta delle rassicurazioni del suo medico
- ✓Decide di andare da sola in Pronto Soccorso all'ospedale piu' vicino
- ✓Alla visita tutto bene
- ✓Il battito c'e' il bambino si muove…
- ✓Ma…

Domanda 3

## *Cosa e' indispensabile controllare in una paziente che lamenta algie pelviche?*

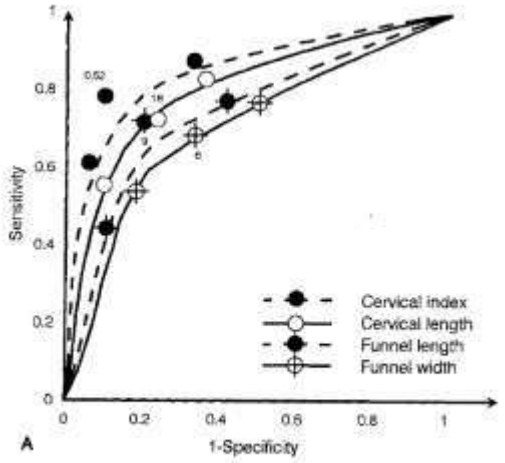
1. L'emocromo
2. La PCR
3. La Cervicometria con ecografia
4. Tutte le risposte

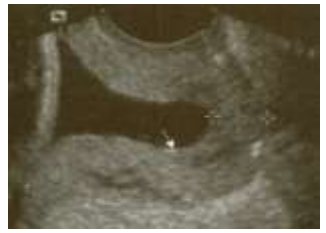
Ultrasonographic examination of the uterine cervix is better than cervical digital examination as a predictor of the likelihood of premature delivery in patients with preterm labor and intact membranes

1994

Volume 171, Number 4
Am J Obstet Gynecol

Ricardo Gomez, MD,[a] Maurizio Galasso, MD,[a] Roberto Romero, MD,[a, b] Moshe Mazor, MD,[a]
Yoram Sorokin, MD,[a] Luis Gonçalves, MD,[a] and Marjorie Treadwell, MD[a]



Ultrasonographic examination of the uterine cervix is better than cervical digital examination as a predictor of the likelihood of premature delivery in patients with preterm labor and intact membranes.

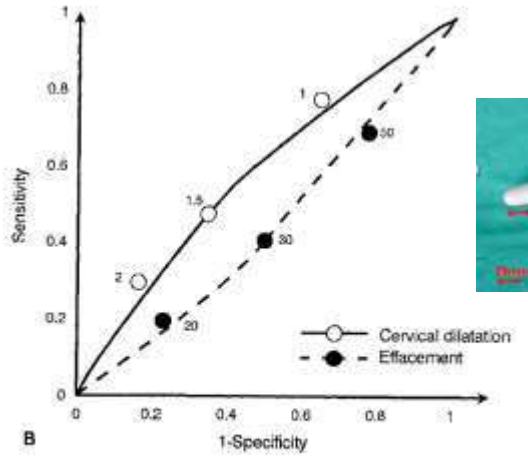



Fig. 3. Receiver-operator characteristic curve analysis of results of clinical and ultrasonographic examination of uterine cervix in diagnosis of preterm delivery. A, Area under curve

## MESSAGGI CHIAVE

Nelle donne con precedente PPT la cervicometria permette di distinguere differenti profili di rischio che beneficiano del trattamento con progesterone vaginale.

Nelle donne sintomatiche la cervicometria permette di identificare le donne a rischio di parto imminente ed è di ausilio per le conseguenti azioni cliniche e terapeutiche.

Nelle donne a basso rischio di PPT la cervicometria predice il parto pretermine spontaneo ma la sua applicabilità clinica come screening deve essere ancora definita e articolata.

Gestione Del Parto Pretermine, SIGO, 2020

EXPERT REVIEWS

Cervical length for the prediction and prevention of preterm birth

Mariarosaria Di Tommaso*[1] and Vincenzo Berghella[1]

Expert Rev. Obstet. Gynecol. 8(4), 345–355 (2013)

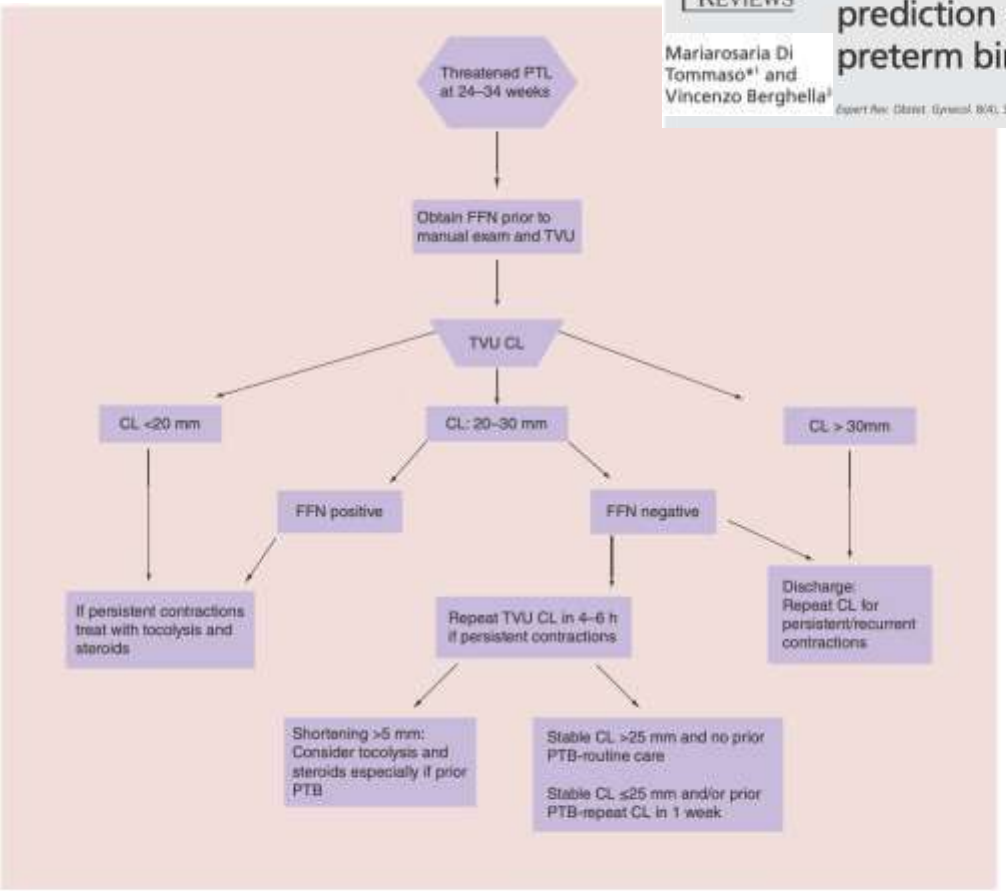
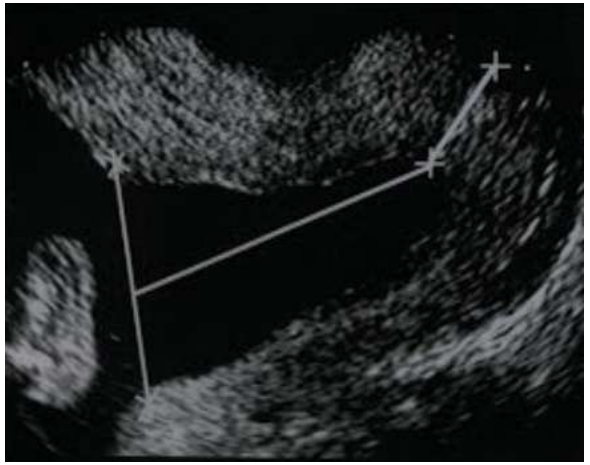



**Figure 4. Management protocol using cervical length and fetal fibronectin for symptomatic patients with threatened preterm labor.**
CL: Cervical length; FFN: Fetal fibronectin test; PTB: Preterm birth; PTL: Preterm labor; TVU: Transvaginal ultrasonography.
Reproduced with permission from (ss).

- ✓Al Pronto Soccorso viene effettuata la cervicometria

- ✓Ampio funnelling
- ✓Cervicometria 10



- ✓Sigh Sigh
- ✓Che fare?

Domanda 4

# *Terapia antibiotica?*

1. SI
2. NO

# ANTIBIOTICI & PARTO PRETERMINE

## Infection and Preterm Labor

Roberto Romero, MD
Moshe Mazor, MD

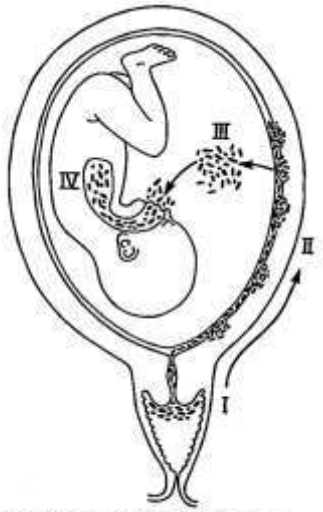



FIG. 1. *The stages of ascending infection in preterm labor.*

1988

## Clinical significance of intra-amniotic inflammation in patients with preterm labor and intact membranes

Bo Hyun Yoon, MD, PhD, Roberto Romero, MD, Jeong Bin Moon, MD, Soon-Sup Shim, MD, Miha Kim, MD, Gilja Kim, MT, and Jong Kwan Jun, MD, PhD
*Seoul, Korea*

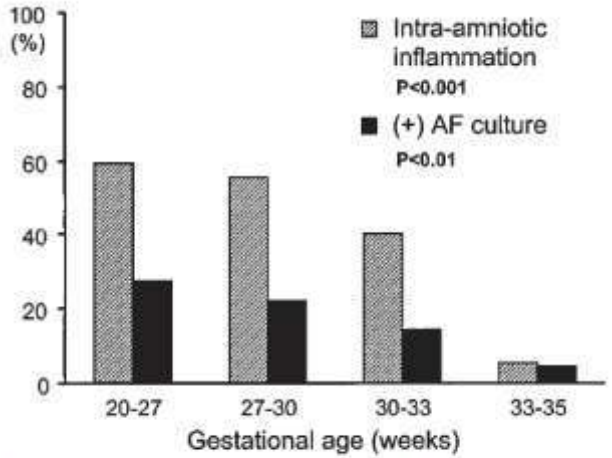



**Fig 2.** Frequency of a positive amniotic fluid (*AF*) culture and intra-amniotic inflammation (negative AF culture but with an AF IL-6 of higher than 2.6 ng/mL) as a function of gestational age.

2001

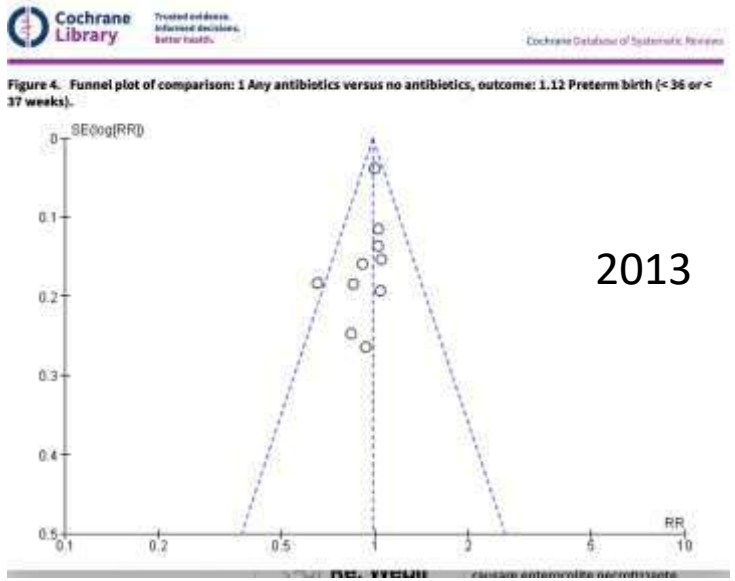
## Broad-spectrum antibiotics for spontaneous preterm labour: the ORACLE II randomised trial

**ORACLE II**

S L Kenyon, D J Taylor, W Tarnow-Mordi, for the ORACLE Collaborative Group*

*Lancet* 2001; **357:** 989–94

2001




2013

# ANTIBIOTICI & PARTO PRETERMINE: Linee Guida

**Authors' conclusions**

This review did not demonstrate any benefit in important neonatal outcomes with the use of prophylactic antibiotics for women in preterm labour with intact membranes, although maternal infection may be reduced. Of concern, is the finding of short- and longer-term harm for children of mothers exposed to antibiotics. The evidence supports not giving antibiotics routinely to women in preterm labour with intact membranes in the absence of overt signs of infection.

2013

NICE
National Institute for Health and Care Excellence

do not offer antenatal prophylactic antibiotics

GESTIONE DEL PARTO PRETERMINE
FONDAZIONE CONFALONIERI RAGONESE

12

L'antibiotico profilassi non è raccomandata nelle donne con minaccia di parto pretermine a membrane integre in assenza di infezione clinicamente manifesta. (I E)

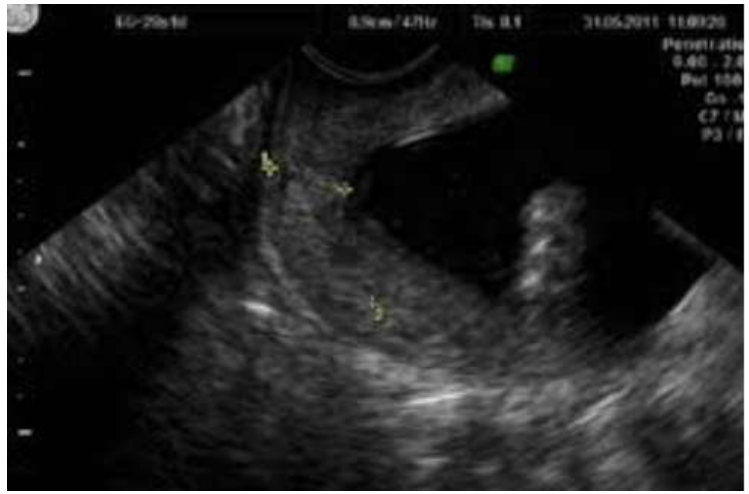
The American College of Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

Thus, antibiotics should not be used to prolong gestation or improve neonatal outcomes in women with preterm labor and intact membranes. This recommendation is distinct from recommendations for antibiotic use for preterm premature rupture of membranes (76) and group B streptococci carrier status (77, 78).

Domanda 5

***In realtà alla cervicometria è presente sludge, siamo a 20 settimane, quale terapia antibiotica?***

1. Amoxicillina
2. Amoxicillina /Ac Clavulonico
3. Eritromicina
4. Cefalosporine



Domanda 6

***Il Progesterone è sempre una terapia protettiva della gravidanza potenzialmente a rischio di parto prematuro?***

1 SI

2. NO

# Short Cervix

**Table 3** Gestational age at delivery and neonatal outcome in asymptomatic women with a singleton pregnancy and sonographic short cervix allocated to receive vaginal progesterone gel ($n = 235$) compared with those allocated to receive placebo ($n = 224$): treated patient analysis set

| *Outcome* | *Vaginal progesterone (n (%))* | *Placebo (n (%))* | *Unadjusted RR (95% CI)** | P* | *Adjusted RR (95% CI)†* | P† |
|---|---|---|---|---|---|---|
| Primary outcome | | | | | | |
| Preterm birth < 33 weeks | 21 (8.9) | 34 (15.2) | 0.59 (0.35–0.98) | 0.040 | 0.56 (0.33–0.93) | 0.022 |
| Secondary outcomes | | | | | | |
| Preterm birth < 28 weeks | 12 (5.1) | 21 (9.4) | 0.54 (0.27–1.08) | 0.077 | 0.55 (0.28–1.08) | 0.075 |
| Preterm birth < 35 weeks | 34 (14.5) | 50 (22.3) | 0.65 (0.44–0.96) | 0.030 | 0.61 (0.41–0.90) | 0.012 |
| Preterm birth < 37 weeks | 71 (30.2) | 74 (33.0) | 0.91 (0.70–1.20) | 0.516 | 0.89 (0.68–1.15) | 0.377 |

Hassan SS, Romero R, Vidyadhari D, Fusey S, Baxter JK, Khandelwal M, et al. 2011. *Vaginal progesterone reduces the rate of preterm birth in women with a sonographic short cervix: a multicenter, randomized, double-blind, placebo-controlled trial.* Ultrasound in Obstetrics & Gynecology 38:18–31.

«The administration of vaginal progesterone gel to women with a sonographic short cervix in the mid-trimester is associated with a 45% reduction in the rate of preterm birth before 33 weeks of gestation and with improved neonatal outcome».

PROGESTERONE VAGINALE

✓**Screening universale (19-23 sett)**

# FIGO COMMITTEE REPORT

FIGO recommendations regarding the use of transvaginal sonographic cervical length and vaginal progesterone use for the prevention of preterm birth.

| | |
|---|---|
| Population | All pregnant women with a singleton gestation. |
| Recommendation | Tranvaginal sonographic cervical length measurement at 19–23 6/7 weeks for all pregnant patients. Vaginal progesterone administered to women with a cervical length ≤25 mm. |
| **200 mg vaginal soft capsules or 90 mg vaginal gel of micronized progesterone can be used for treatment.** | |
| Time using progesterone | Treatment should begin at the time of the diagnosis of a short cervix until 36 6/7 weeks, labor, or rupture of membranes. |
| Risk assessment | Transvaginal sonographic cervical length on all patients regardless of obstetrical history. |
| Other recommendation | When a transvaginal ultrasound is not available other devices may be used as a screening tool to measure objectively and reliably the cervical length. |

FIGO Working Group on Best Practice in Maternal–Fetal Medicine. *Int J Gynecol Obstet* 2015; **128**: *80–82*

# Updated European Guidelines


THE JOURNAL OF MATERNAL-FETAL & NEONATAL MEDICINE, 2017
https://doi.org/10.1080/14767058.2017.1323860

Taylor & Francis

GUIDELINES

**Preterm Labor and Birth Management: Recommendations from the European Association of Perinatal Medicine**

G. C. Di Renzo[a], L. Cabero Roura[b], F. Facchinetti[c], H. Helmer[d], C. Hubinont[e], B. Jacobsson[f], J. S. Jørgensen[g], R. F. Lamont[h,i], A. Mikhailov[j], N. Papantoniou[k], V. Radzinsky[l], A. Shennan[m], Y. Ville[n], M. Wielgos[o] and G. H. A. Visser[p]

- ✓ **Asymptomatic women with a sonographically short cervix (25 mm) regardless of their obstetrical history should be offered vaginal progesterone treatment for the prevention of preterm birth and neonatal morbidity.**
- ✓ Two forms of vaginal micronized progesterone can be used daily: **200mg vaginal soft capsules** or 90mg vaginal gel [57].

## Short Cervix after contraction

### Progestogens for Maintenance Tocolysis in Women With a Short Cervix

*A Randomized Controlled Trial*

*Fabio Facchinetti, MD, Patrizia Vergani, MD, Mariarosaria Di Tommaso, MD, PhD, Luca Marozio, MD, PhD, Barbara Acaia, MD, Roberto Vicini, PhD, Lucrezia Pignatti, MD, Anna Locatelli, MD, Marina Spitaleri, MD, Chiara Benedetto, MD, PhD, Barbara Zaina, MD, and Roberto D'Amico, PhD, on behalf of the PROTECT Collaborative Group**

**CONCLUSION:** The use of progestogens for maintenance tocolysis in women with a short cervix did not reduce the rate of preterm birth.

## Updated European Guidelines

THE JOURNAL OF MATERNAL-FETAL & NEONATAL MEDICINE, 2017
https://doi.org/10.1080/14767058.2017.1323860

Taylor & Francis

GUIDELINES

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«In symptomatic women undelivered after an episode of PTL The efficacy of progestogens remain to be clarified».

→ PROGESTERONE ?

✓Donne sintomatiche

# Cosa succede dopo

- ✓Maria viene ricoverata
- ✓Terapia, locale di progesterone
- ✓Situazione locale invariata per 7 giorni
- ✓Siamo ormai a 21 settimane
- ✓Rimane il dubbio se fare il cerchiaggio cervicale o meno

# Domanda 7 *Terapia per incontinenza cervicale? Voi cosa fareste?*

1. Cerchiaggio
2. Pessario
3. Nulla

VOL. 126, NO. 1, JULY 2015

OBSTETRICS & GYNECOLOGY

*Review*

# Physical Examination–Indicated Cerclage

## *A Systematic Review and Meta-analysis*

*Robert M. Ehsanipoor, MD, Neil S. Seligman, MD, Gabriele Saccone, MD, Linda M. Szymanski, MD, PhD, Christina Wissinger, MS, MLIS, Erika F. Werner, MD, MS, and Vincenzo Berghella, MD*

**Table 3. Bias Assessment for Nonrandomized Studies**

| Study | Obstetric History | Gestational Age | Dilatation | Evidence of Infection | Tocolysis | Antibiotics |
|---|---|---|---|---|---|---|
| Olatunbosun et al, 1995[16] | Low | Low | Low | Unable to determine | Low | Low |
| Morin et al, 1997[17] | Unable to determine | Unable to determine | High | Unable to determine | Unable to determine | Unable to determine |
| Novy et al, 2001[18] (group 2 only) | Low | High | Low | Unable to determine | Unable to determine | Unable to determine |
| Daskalakis et al, 2006[19] | Low | Low | Low | Unable to determine | Low | Low |
| Pereira et al, 2008[20] | High | High | Low | Unable to determine | Unable to determine | Unable to determine |
| Stupin et al, 2008[12] | Low | High | High | Low | Unable to determine | Unable to determine |
| Ventolini et al, 2009[21] | Unable to determine | Unable to determine | Unable to determine | Unable to determine | Unable to determine | Unable to determine |
| Curti et al, 2012[22] | Low | High | High | High | Low | Unable to determine |
| Aoki et al, 2013[23] | Low | High | Unable to determine | Low | Unable to determine | Unable to determine |

**CONCLUSION:** Physical examination–indicated cerclage is associated with a significant increase in neonatal survival and prolongation of pregnancy of approximately 1 month when compared with no such cerclage. The strength of this conclusion is limited by the potential for bias in the included studies.

stich2

WORK IN PROGRESS

C-STICH2: Emergency Cervical Cerclage to Prevent Miscarriage and Preterm Birth - a Randomised Controlled Trial

**Main Trial Features**

- A randomised controlled, multicentre trial (RCT) with an internal pilot, a nested qualitative process evaluation and cost-effectiveness analysis.
- Funded by the NIHR HTA (16/151/01)
- Chief Investigator Dr Katie Morris
- Coordinated by Birmingham Clinical Trials Unit (BCTU)
- Sponsored by Birmingham Women's and Children's NHS Foundation Trust

# La gestione clinica interattiva della MINACCIA DI PARTO PREMATURO

*Arch Gynecol Obstet* **299,** 1215–1231

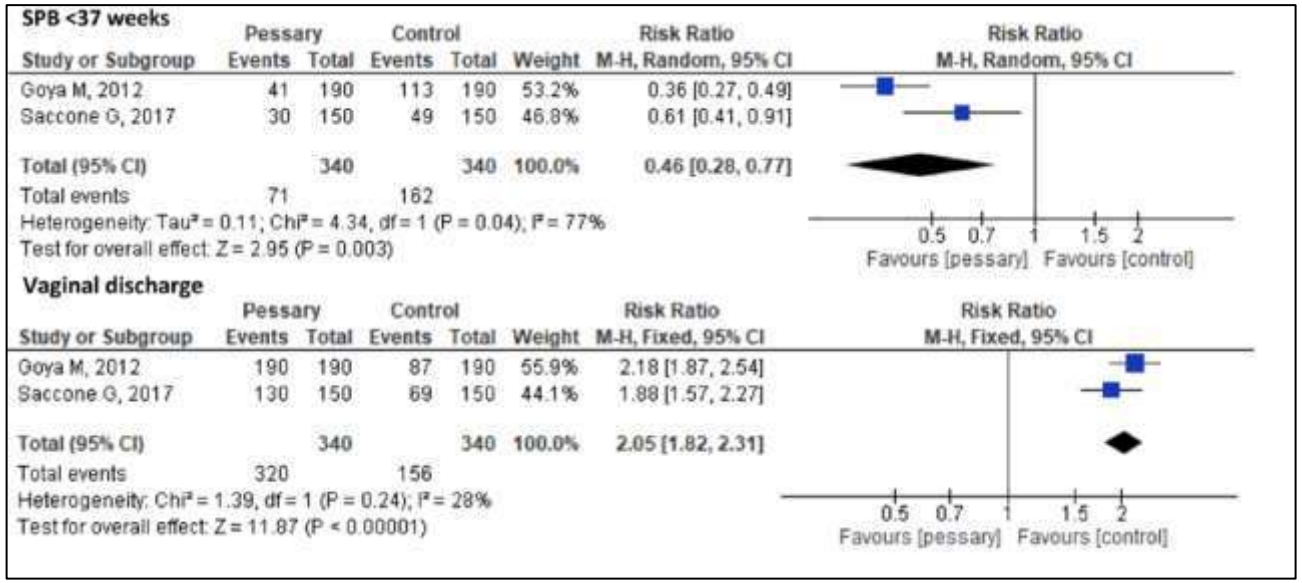
REVIEW

**Effectiveness of the cervical pessary for the prevention of preterm birth in singleton pregnancies with a short cervix: a meta-analysis of randomized trials**

Faustino R. Pérez-López[1,2] · Peter Chedraui[3,4] · Gonzalo R. Pérez-Roncero[1] · Samuel J. Martínez-Domínguez[1] · The Health Outcomes and Systematic Analyses (HOUSSAY) Project

2019

## Assessment of risk of bias in the three RCT


Cervical pessary application was associated with a reduced risk of SPT at < 37 week and higher risk of vaginal discharge

# Cosa e' successo dopo?

- ✓Maria ha fatto l'intervento di cerchiaggio cervicale
- ✓Dopo 2 giorni di ospedalizzazione va a casa con terapia protettiva della gravidanza
- ✓Non va piu' a lavorare…
- ✓Cambia il dottore di riferimento e si affida ai medici dell'ospedale…

# Ma ahime' a 30 settimane la sera si rompono le membrane

- ✓Maria si sveglia perdendo liquido caldo….che viene dal canale vaginale
- ✓In preda al panico corre in ospedale
- ✓Qui viene visitata
- ✓Il collo e' chiuso, il cerchiaggio tiene bene, ma il sacco amniotico e' rotto: pPROM

Domanda 8

## Diagnosi: pProm. *Che cosa fareste voi?*

1. Ricovero e rimozione cerchiaggio: parto spontaneo immediato
2. Ricovero e taglio cesareo immediato per la prematurita'
3. Ricovero, rimozione cerchiaggio e terapia di attesa
4. Ricovero senza rimozione cerchiaggio: terapia di attesa

ACOG PRACTICE BULLETIN

Clinical Management Guidelines for Obstetrician–Gynecologists

NUMBER 217 (Replaces Practice Bulletin Number 188, January 2018)

**Committee on Practice Bulletins—Obstetrics.** This Practice Bulletin was developed by the American College of Obstetricians and Gynecologists' Committee on Practice Bulletins—Obstetrics in collaboration with Robert Ehsanipoor, MD and Christian M. Pettker, MD.

# Prelabor Rupture of Membranes

2018

nionitis (113, 114). A firm recommendation regarding whether a cerclage should be removed after preterm PROM cannot be made, and either removal or retention is reasonable. Regardless, if a cerclage remains in place with preterm PROM, prolonged antibiotic prophylaxis beyond 7 days is not recommended.

Domanda 9

# Cortisone sì /cortisone no?

## *La profilassi della RDS con Betametasone 12mg+12mg*

1. E' indispensabile
2. E' pericolosa perche' aumenta il rischio di infezioni
3. Va fatta soltanto in prossimita' del parto
4. E' inutile

# I medici decidono di ricoverare Maria

- ✓Non rimuovono il cerchiaggio
- ✓Iniziano la terapia antibiotica
- ✓Inducono la maturità polmonare
- ✓Sorvegliano il benessere fetale con eco e ctg
- ✓Controllano le condizioni materne con
  - ✓Emocromo  e PCR ogni 48 ore
  - ✓Temperatura corporea
  - ✓Tamponi vaginali e rettali

# Domanda 10

***Il comportamento di attesa e' corretto?***

1. Sì
2. No

# CONDOTTA DI ATTESA

Cochrane Library

Cochrane Database of Systematic Reviews

2017

**Planned early birth versus expectant management for women with preterm prelabour rupture of membranes prior to 37 weeks' gestation for improving pregnancy outcome (Review)**

Bond DM, Middleton P, Levett KM, van der Ham DP, Crowther CA, Buchanan SL, Morris J

No differences for:

- Neonatal sepsis
- Proven neonatal infection with positive blood culture
- Perinatal mortality
- Intrauterine deaths

EARLY BIRTH

- ↑ RDS
- ↑ Caesarean Section
- ↑ neonatal death
- ↑ Endometritis
- ↓ Triple-I

# CONDOTTA DI ATTESA Linee Guida

SIGO
SOCIETA' ITALIANA
DI GINECOLOGIA E OSTETRICIA

Gestione Del Parto Pretermine, SIGO, 2020

- Effettuare un management conservativo < 33.6 settimane in assenza di controindicazioni materno fetali (I A)
- In caso di pPROM > 34 settimane offrire una conduzione d'attesa discussa con i genitori. (I B)

The American College of Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

Prelabor Rupture of Membranes, ACOG Practice Bullettin 217 (2020)

▶ Patients with preterm PROM before 34 0/7 weeks of gestation should be managed expectantly if no maternal or fetal contraindications exist.

Royal College of Obstetricians & Gynaecologists

Care of Women Presenting with Suspected Preterm Prelabour Rupture of Membranes from 24+0 Weeks of Gestation
Green-top Guideline No. 73 June 2019

| Recommendation | Evidence Level | Strength | Rationale for the recommendation |
|---|---|---|---|
| **Women whose pregnancy is complicated by PPROM after $24^{+0}$ weeks' gestation and who have no contraindications to continuing the pregnancy should be offered expectant management until $37^{+0}$ weeks; timing of birth should be discussed with each woman on an individual basis with careful consideration of patient preference and ongoing clinical assessment** | 1++ | A | A Cochrane review found benefits from expectant management, rather than early delivery, following PPROM in women with otherwise uncomplicted pregnancies. |

- ✓Dopo 3 giorni di osservazione le contrazioni cominciano a diventare piu' frequenti
- ✓La pcr comincia a salire (22, 35)
- ✓I globuli bianchi sono alti(22.000)
- ✓Il peso fetale stimato e' di circa 1200/1300 gr (50° centile)
- ✓Il feto e' cefalico
- ✓Si decide di espletare il parto

Domanda 11

## *Come si deve espletare il parto?*

1 . Togliere il cerchiaggio e stimolare il travaglio

2. Togliere il cerchiaggio e  aspettare il travaglio spontaneo

3. Togliere il cerchiaggio e fare un taglio cesareo elettivo

4. Somministrare solfato di Mg per neuroprotezione, rimuovere il cerchiaggio ed eventualmente stimolare il travaglio

## *Recommendations*

Updated European Guidelines

Preterm gestational age alone is not a valid indication for CS, unless if there are specific obstetrical indications.

Vaginal delivery appears to be safe and the gold standard for singleton and twins in vertex position.

La prematurità in sé non è indicazione al taglio cesareo

Caesarean section should be recommended in preterm labor in the presence of intrauterine growth restriction, breech presentation and in twins with a non-vertex presenting fetus. CS delivery is not recommended but might be an option for previable infants. CS delivery does not prevent the occurrence of neurological sequelae. Short- and long-term maternal risks are clearly increased in case of CS.

Instrumental delivery is not recommended in preterm infants. However, if necessary, a low forceps delivery should be preferred to vacuum extraction below 34 weeks.

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# Prelabor Rupture of Membranes

## Preterm (24 0/7–33 6/7 weeks of gestation)

- Expectant management
- Antibiotics recommended to prolong latency if there are no contraindications
- Single-course of corticosteroids; insufficient evidence for or against rescue course
- Treat intraamniotic infection if present (and proceed to delivery)
- A vaginal–rectal swab for GBS culture should be obtained at the time of initial presentation and GBS prophylaxis administered as indicated.
- Magnesium sulfate for neuroprotection before anticipated delivery for pregnancies <32 0/7 weeks of gestation, if there are no contraindications†

# E' nato!!!

- ✓Dopo avere tolto il cerchiaggio ed indotto le contrazioni
- ✓Si e' avviato un travaglio con l'aiuto della ossitocina
- ✓Dopo 5 ore di travaglio attivo senza modificazioni della cervice, nonostante le frequenti esplorazioni vaginali e  parte presentata alta, sono comparse delle decelerazioni ripetitive
- ✓I medici hanno deciso di fare un cesareo
- ✓Maschio 1400 7/9 Indice Apgar
- ✓Viene affidato ai neonatologi

# Tutti sono felici però…

- ✓Maria dopo il cesareo ha febbre altissima per 4 giorni
- ✓Sono tutti preoccupati
- ✓PCR 120; GB 25000
- ✓Gli antibiotici tradizionali non funzionano
- ✓Viene chiesta una consulenza di malattie infettive
- ✓Lentamente con antibiotici di ultima generazione ad alte dosi Maria si rimette e sta meglio

Domanda 12

***Ma se non si fosse aspettato si poteva prevenire questa sepsi post parto?***

1. Si
2. No
3. E' imprevedibile
4. Per il feto e' sempre meglio aspettare

**Planned early birth versus expectant management for women with preterm prelabour rupture of membranes prior to 37 weeks' gestation for improving pregnancy outcome (Review)**

Cochrane Library
Cochrane Database of Systematic Reviews

2017

# pPROM & rischio di sepsi

AUTHORS' CONCLUSIONS we found **no** clinically important **difference in the incidence of neonatal sepsis**.
**Early planned** birth was associated with an **increase in the incidence of neonatal RDS, need for ventilation, neonatal mortality, endometritis, admission to neonatal intensive care**, and the likelihood of birth by **caesarean section**, but a **decreased incidence of chorioamnionitis.**

Women randomized to **early birth** also had an **increased risk of labor induction**, but a decreased length of hospital stay.

In women with **PPROM before 37 weeks' gestation** with no contraindications to continuing the pregnancy, **a policy of expectant management with careful monitoring was associated with better outcomes for the mother and baby**

# La gestione clinica interattiva della MINACCIA DI PARTO PREMATURO

Available online at www.sciencedirect.com
Seminars in Perinatology
ELSEVIER

**Maternal sepsis**

*Arthur Jason Vaught, MD*
John Hopkins School of Medicine, 600 N. Wolfe St, Phipps 228, Baltimore, MD 21287

2018

1. Syndrome (SIRS)
2. Sepsis
3. Severe Sepsis
4. Septic Shock

**Table 2 – Definition of SIRS.**

Temperature > 38.3°C or <36.0°C
Heart rate > 90 beats/min
Respiratory rate > 20 breaths/min or $PaCO_2$ < 32 mmHg
White blood cell count > 12,000 cells/$mm^3$ or
White blood cell count < 4000 cells/$mm^3$ or
Greater than 10% bandemia
*Must have 2 or more to meet positive criteria for SIRS*

**A!A!A! MEOWS in gravidanza**

Normali modificazioni fisiologiche possono essere considerati reperti anormali fuori della gravidanza

| SCORE | MET CALL | 3 | 2 | 1 | 0 | 1 | 2 | 3 | MET CALL |
|---|---|---|---|---|---|---|---|---|---|
| ZONE | PINK | ORANGE | GOLD | YELLOW | WHITE | YELLOW | GOLD | ORANGE | PINK |
| PARAMETER: Respiratory Rate | <5 | 5-8 | | | 9-20 | | 21-30 | 31-35 | >35 |
| PARAMETER: Systolic Blood Pressure | <70 | 70-79 | 80-89 | 90-99 | 100-180 | | >180 | | |
| PARAMETER: Heart Rate | <40 | 40-49 | | | 50-100 | 101-110 | 111-130 | 131-140 | >140 |
| PARAMETER: 4 Hour Urine Output | | <80 | 80-120 | | >120 | | | | |
| PARAMETER: Level of Consciousness | Unresponsive | Pain | Agitation/ Confusion | Voice | Alert | | | | |

# Dopo qualche ora dalla nascita Tommaso il bambino non sta benissimo…

- ✓Presenta instabilità respiratoria per cui viene assistito artificialmente
- ✓Sviluppa distermia
- ✓Ha pcr e bianchi alti
- ✓Deve fare terapia antibiotica
- ✓Forse l'eco cerebrale mostra qualche segno di iperecogenicita' diffusa….

Domanda 13

***Ma se fosse nato dopo la rimozione del cerchiaggio sarebbe stato meglio?***

1. Sicuramente
2. Avrebbe avuto altri problemi
3. Non sarebbe cambiato nulla
4. NO. Tuttavia sarebbe stato opportuno evitare esplorazioni vaginali molteplici

International Multicentre Term Prelabor Rupture of Membranes Study: Evaluation of predictors of clinical chorioamnionitis and postpartum fever in patients with prelabor rupture of membranes at term

Volume 177, Number 5
Am J Obstet Gynecol
November 1997

P. Gareth Seaward, MB, BCh, MMED,[b] Mary E. Hannah, MDCM, MSc,[a, b] Terri L. Myhr, MSc,[a] Dan Farine, MD,[b] Arne Ohlsson, MD, MSc,[a, c] Elaine E. Wang, MDCM, MSc,[c] K. Haque, MD,[c] Julie A. Weston, BScN, MSc,[a] Sheila A. Hewson, BA,[a] Gonen Ohel, MD,[f] and Ellen D. Hodnett, RN, PhD,[a, d] for the Term Prelabor Rupture of Membranes Study Group

RCT 5041 pz

**Table II.** Significant independent predictors of clinical chorioamniontis ($n$ = 335) with use of multiple logistic regression analysis

| *Variable* | *Incidence of chorioamnionitis within each subcategory* | | *Odds ratio* | *95% Confidence interval* | *Significance* |
|---|---|---|---|---|---|
| | *No.* | *%* | | | |
| No. of digital vaginal examinations before delivery | | | | | |
| <3 | 14 | 2 | | | |
| 3-4 (vs <3) | 80 | 4 | 2.06 | 1.07-3.97 | $p = 0.0307$ |
| 5-6 (vs <3) | 97 | 7 | 2.62 | 1.35-5.08 | $p = 0.0044$ |
| 7-8 (vs <3) | 79 | 13 | 3.80 | 1.92-7.53 | $p = 0.0001$ |
| >8 (vs <3) | 65 | 20 | 5.07 | 2.51-10.25 | $p = 0.0001$ |

the iatrogenic risk factor of the number of.vaginal examinations was more important than the intrinsic risk factor of duration of membrane rupture in predicting subsequent clinical chorioamnionitis

RESEARCH ARTICLE Open Access

*BMC Pregnancy and Childbirth* (2020) 20:246

# The correlation between the number of vaginal examinations during active labor and febrile morbidity, a retrospective cohort study

Ohad Gluck*, Yossi Mizrachi, Hadas Ganer Herman, Jacob Bar, Michal Kovo and Eran Weiner

**Table 2** Univariate analysis of febrile morbidity complications according to the number of vaginal examinations during labor

| Complications | Up to 4 VEs ($n = 9716$) | 5–6 VEs ($n = 4624$) | 7–8 VEs ($n = 2999$) | 9 or more VEs ($n = 4844$) | $p$-value |
|---|---|---|---|---|---|
| Intrapartum fever | 23 (0.23) | 36 (0.77) | 65 (2.16) | 220 (4.54) | **< 0.001** |
| Chorioamnionitis | 85 (0.87) | 72 (1.55) | 79 (2.63) | 341 (7.03) | **< 0.001** |
| Intrapartum febrile morbidity | 108 (1.11) | 108 (2.32) | 144 (4.8) | 561 (11.58) | **< 0.001** |
| Postpartum fever | 56 (0.57) | 57 (1.23) | 67 (2.23) | 139 (2.86) | **< 0.001** |
| Endometritis | 7 (0.07) | 5 (0.11) | 5 (0.17) | 14 (0.29) | **< 0.001** |
| Postpartum febrile morbidity | 63 (0.65) | 62 (1.37) | 72 (2.45) | 153 (3.18) | **< 0.001** |
| Any febrile morbidity | 171 (1.76) | 170 (3.67) | 216 (7.2) | 714 (14.73) | **< 0.001** |

Data are presented as n (%)
Values in bold are statistically significant

Conclusion: The number of VEs performed during labor is directly correlated with febrile morbidity. Performing five or more VEs during labor is independently associated with febrile morbidity; For intrapartum and peripartum febrile morbidity the risk rises as more VEs are performed.

# Epicrisi

A. Anamnesi completa ed accurata delle pazienti anche apparentemente a basso rischio
B. Progesterone vaginale è da preferire a quello im
C. Valutazione della cervicometria nel 2 trimestre indicata anche in assenza di sintomi (screening universale)
D. Cerchiaggio di emergenza SI/NO vantaggi e svantaggi
E. pProm un momento insidioso che necessita di un lavoro di equipe in sintonia…