

# Screening and Treating Antenatal Lower Genital Tract Infections to Improve Birth Outcomes

*Authors: Liza Suzanne Kessler, DO and Elliot Thomas Janssen, DO*

In His Image Family Medicine Residency, Tulsa OK

## Question

Does screening for and treating antenatal lower genital tract infections improve birth outcomes?

## Evidence-based Answer

Screening and treating lower genital tract infections (bacterial vaginosis, candidiasis, and trichomoniasis) in pregnancy modestly decreased late miscarriages, preterm birth and low birth weight rates, but overall miscarriage rates were unchanged (SOR: B, RCT systematic review). Screening and treating BV decreased PTB rates and late miscarriages (SOR B: meta-analysis of RCTs), but LBW, very LBW, early PTB, composite outcome of very PTB and late miscarriage were unchanged (SOR: B, meta-analysis of RCTs, RCT).

## Summarized Data Review

A 2015 systematic review of 1 RCT (N=4,155) examined the relationship of screening and treating for lower genital tract infections and adverse perinatal outcomes compared to no treatment.

### Population:

- Asymptomatic low-risk Austrian women
- 15-19 wga - Mean age 28.9

### Intervention:

- Nugent Scores of  $\geq 3$  received 6 days of 2% vaginal clindamycin then 7 days oral clindamycin 300mg BID if recurrent
- Candidiasis received 6 days vaginal clotrimazole 0.1g
- Trichomoniasis received 7 days vaginal metronidazole 500mg respectively.
- Control groups received no treatment.

No adverse treatment effects were reported.

Outcomes	Significance	Relative Risk
<i>Primary Outcome:</i>		
Preterm Birth (<37 wga)	<b>Significantly reduced</b> (5 to 3%)	0.55; 95% CI, 0.41-0.75
<i>Secondary Outcome:</i>		
Preterm LBW	<b>Significantly reduced</b>	0.48; 95% CI 0.34-0.66
Very LBW	<b>Significantly reduced</b>	0.34; 95% CI 0.15-0.75
Miscarriages	No difference	

A 2011 meta-analysis of 5 RCTs (N=2,346) examined the effectiveness of treating abnormal vaginal flora to reduce PTB and late miscarriage (16-23 wga).

### Population:

- Women <22 wga with abnormal flora or BV through Nugent score, gram stain, Spiegel criteria, or Hay/Ison

### Intervention:

- Either 3, 6, or 7 days of 2% clindamycin vaginal cream or 5 days of clindamycin 300mg BID PO
- Placebo
- No treatment

No adverse effects were significant.

Outcomes	Significance	Relative Risk
<i>Primary Outcome:</i>		
Preterm Birth (<37 wga)	<b>Significantly reduced</b> with oral clindamycin (and any clindamycin vs placebo)	1 trial, N=485; 0.39; 95% CI, 0.20-0.76 (5 trials, N=2346; 0.6; 95% CI 0.42-0.86)
Late Miscarriage (16-23 wga)	<b>Significantly reduced</b> with vaginal or oral	2 trials, n=1270; RR 0.2; 95% CI 0.05-0.76
<i>Secondary Outcome:</i>		
LBW	No statistical difference	
Very LBW	No statistical difference	
Early PTB	No statistical difference	

A 2018 double blind RCT (N=2,869) examined the effectiveness of treating BV to reduce late miscarriage and spontaneous very PTB (<32 weeks).

### Population:

- 2% multi-gestation - 12 wga average
- Average age of 28 years
- 50-54% nulliparous - Nugent score  $\geq 7$

### Intervention:

- 300mg Clindamycin PO BID for 4 days
- Three courses of 300mg Clindamycin PO BID for 4 days spaced 1 month apart
- Placebo

### Primary outcomes:

- Composite of late miscarriage, 16-21 wga
- Spontaneous very PTB

### Secondary outcomes:

- Chorioamnionitis - Abruption
- Preterm membrane rupture - PTB
- Fetal death - NICU need

There was no significance in primary nor secondary maternal and fetal outcomes.

## References

1. Sangkomkarnhang, U., Lumbiganon, P., Prasertcharoensuk, W. and Laopaiboon, M. Antenatal lower genital tract infection screening and treatment programs for preventing preterm delivery. Cochrane Library 2015; CD006178. [STEP 1]
2. Lamont, R., Nhan-Chang, C., Sobel, J., Workowski, K., Conde-Agudelo, A., and Romero, R. Treatment of abnormal vaginal flora in early pregnancy with clindamycin for the prevention of spontaneous preterm birth: a systematic review and metaanalysis. American Journal of Obstetrics and Gynecology 2011; PMID: 22071048. [STEP 1]
3. Subtil, D., Brabant, G., Tilloy, E., et al. Early clindamycin for bacterial vaginosis in pregnancy (PREMEVA): a multicentre, double-blind, randomised controlled trial. The Lancet 2018; PMID: 30322724. [STEP 2]