

THE ROLE OF LACTIC ACID IN THE MANAGEMENT OF BACTERIAL VAGINOSIS: A Systematic Literature Review

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Objectives

- > Review of the efficacy and prophylactic potential of lactic acid for BV alone or with antibiotics.
- > Propose additional treatment recommendations based on clinical findings.

Method

- > Systematic literature review on PubMed and Cochrane Library databases from inception until 7 May 2021.

Results

- > 213 peer-reviewed studies identified
- > 12 fulfilled inclusion criteria and assessed for eligibility
- > 7 articles eligible and included

Efficacy of Lactic Acid



On symptomatic BV

Mixed data

- 2 studies = similar cure rates as metronidazole.
- 1 study = greater efficacy over placebo.
- 2 studies = no increase cure rates over placebo.



On recurrent BV

Intermittent prophylactic use of vaginal lactate gel was **significantly higher than placebo**.



During pregnancy

After 2 days = Positive change in the vaginal microbiota.
After 1 week = with 80% cure rate.

Discussion

Variation in efficacy results might be partly due to generalization of the study population, **despite different grades of BV severity**, and the **administration route** and might indicate that an **alternative patient population stratification** is desired:

| Patient Group | Condition | Lactic Acid | Antibiotics | Antifungal |
|--------------------|--|--|--|-----------------------------------|
| First time BV | Mild BV | Vaginal lactic acid, 5 mL, 7 days | No | No |
| | Moderate/Severe BV | Vaginal lactic acid, 5 mL, 7 days | Oral metronidazole, 7 days, or Vaginal metronidazole or clindamycin, 5-7 days | No |
| Recurrent BV | | Vaginal lactic acid, 5 mL, 7 days | Vaginal metronidazole, 4-6 months, or Oral metronidazole or tinidazole, 7 days | No |
| Pregnant with BV | Symptomatic | Vaginal lactic acid, 5 mL, 7 days | Oral metronidazole or clindamycin, 7 days, or Vaginal dequalinium, metronidazole, or clindamycin | No |
| | Asymptomatic and at high risk of preterm birth | Vaginal lactic acid, 5 mL, 7 days | No | No |
| Planning pregnancy | Asymptomatic mild BV | Vaginal lactic acid, 5 mL, 7 days | No | No |
| Mixed infection | BV and VVC | Vaginal lactic acid, 5 mL, 7 days, only if BV symptoms persist after VVC treatment | Only if BV symptoms persist after VVC treatment, and depending on the patient group | Vaginal clotrimazole, single dose |
| | BV and trichomoniasis | Vaginal lactic acid, 5 mL, 7 days | Oral metronidazole or tinidazole, single dose | No |

BV: Bacterial Vaginosis; VVC: Vulvovaginal Candidosis.

Conclusion

Although initial treatment with antibiotics is very effective, the prevention of BV recurrence remain an important challenge. **Concomitant usage of lactic acid-based treatments could provide added value by stimulating restoration of the healthy vaginal microbiota and disrupting pathogenic biofilms**, thereby aiding in the treatment of BV and prevention of recurrent infections.

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