

Alternative Treatments in Bacterial Vaginosis

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What Is Bacterial Vaginosis (BV)?

BV is an Imbalance of the Bacteria in the Vagina, Not an Infection

In the Past BV Has Been Called:

- Gardnerella vaginitis
- Nonspecific vaginitis
- Anaerobic vaginosis
- Haemophilus vaginalis
- Leukorrhea

What is the Cause of BV?

- When the normal vaginal flora - (acidophilic lactobacilli) is lowered, an overgrowth of anaerobic species of bacteria takes place
- These bacteria may include:
 - Gardnerella
 - Mobiluncus
 - Bacteriodes
 - Peptostreptococcus
 - Mycoplasma
 - E coli

Is BV a Sexually Transmitted Disease?

- No, it may be acquired non-sexually
- However, BV may be spread by sexual practices: anal sex, oral sex, sex toys, or re-infection by partners
- Women with multiple sex partners or other STDs are more prone to BV

BV - The Most Common Vaginal Infection

- 15-25% of all pregnant women
- 30 to 50% of all women tested
- Majority of cases -sexually active between the ages of 15-44
- Higher incidence in black women
- Higher incidence in women seen in STD clinics

What Are the Predisposing Factors to BV?

- Poor peri-anal hygiene
- Constipation
- Anal sex
- Non-absorbing underwear
- Parasites such as pinworms
- Diet low in fiber
- Profuse pubic hair
- Short distance from introitus to anus

Other Predisposing Factors Include Irritation or Abrasions From:

- Spermicides
- Diaphragms/cervical cap
- Vibrators or dildos
- Vaginal perfumes & deodorant sprays
- Tampons, plastic backed menstrual pads
- Bubble baths, bath gels
- Perfumed toilet paper

Other Factors Present:

- Other infections such as candida, trichomonas
- Hormone changes, such as pregnancy
- Use of antibiotics
- Stress
- Multiple sex partners

Why Is BV Important to Midwives?

- BV may be a significant cause of preterm labor, PROM, postpartum infection and other complications
- Screening for and treating BV can be simple and inexpensive
- Prevention of complications and attention to health is integral to the midwifery model of care

What Are the Risks to Pregnant Women?

- Chorioamnionitis
- Postpartum endometritis
- Preterm labor
- Premature rupture Of membranes
- Late miscarriage
- Low birth weight
- Neonatal sepsis

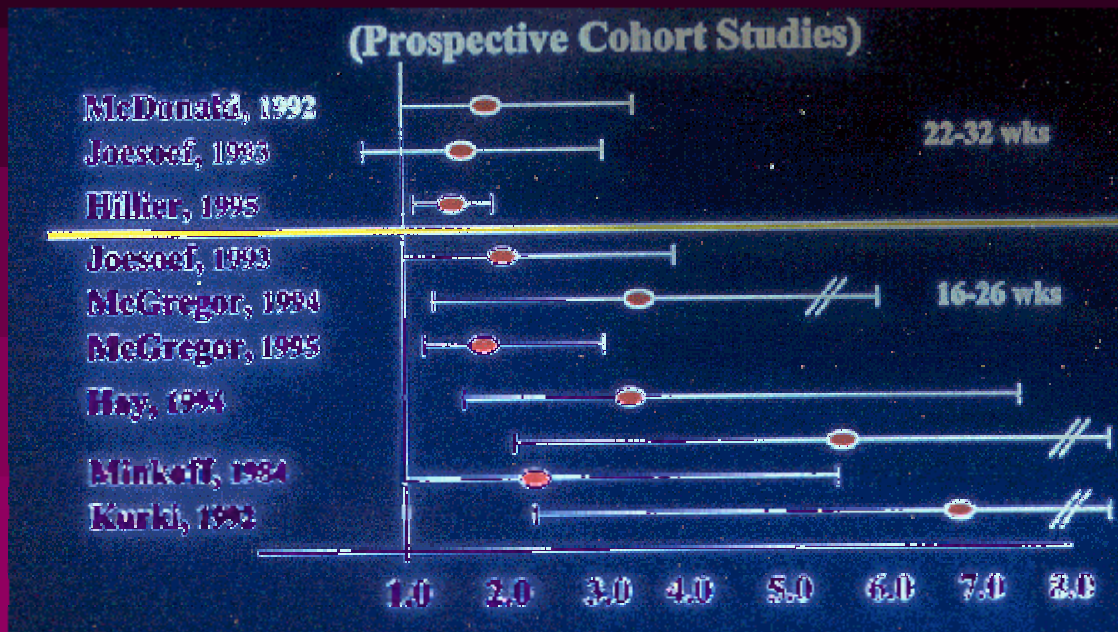
What Are the Risks to Non Pregnant Women?

- Cervical dysplasia
- Mucopurulent cervicitis
- Pelvic inflammatory disease or salpingitis
- Recurrent urinary tract infections
- Post operative infections
- Post abortion infections

Really?

The Cochrane Review looked at five trials involving 1504 women. These trials were of good quality. The effect of treating BV during pregnancy showed a trend to less births before 37 weeks gestation. The prevention of preterm birth less than 37 weeks gestation was most marked in the subgroup of women with a previous preterm birth.

Bacterial Vaginosis in Pregnancy: Association with PTB



Why?

In pregnancy BV is associated with the presence of fetal fibronectin.

- Women with fetal fibronectin have a 16-fold increase in clinical chorioamnionitis and a sixfold increase in neonatal sepsis

The organisms of BV secrete multiple enzymes (Proteases -Mucinase-Sialidase-Phospholipase) **that create havoc in the genital tract**

The effects of these enzymes:

- Destruction of the mucous plug
- Ascension of bacteria into the lower uterine segment
- Weakening and eventual rupture of the membranes
- Local inflammatory response -leading to contractions
- Ripening and dilating of the cervix

What Are the Signs & Symptoms?

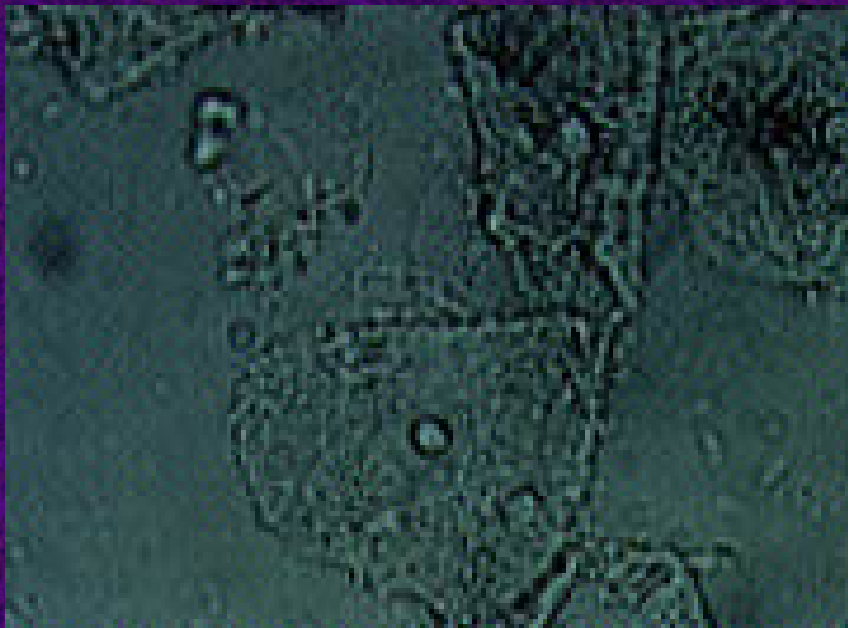
- Mostly asymptomatic
- Change in vaginal odor, especially after intercourse
- Increase in the amount of discharge
- A yellow or white grayish colored discharge
- Vaginal itching or irritation
- Spotting or bleeding may be present

Diagnosis of BV

Amsel's 3 of 4 criteria:

- Clue cells present on microscopic exam
- Fishy amine odor when mixed with 10% KOH
- Vaginal pH > 4.5
- Homogeneous discharge on vaginal wall

To Be Indicative of BV
More Than 20% of
Epithelial Cells Should
Be Clue Cells on
Microscopic Exam



Other Methods of Diagnosis for BV

- Gram stained vaginal smear, with the Nugent criteria:
 - This relies on estimating the relative proportions of bacterial morphotypes to give a score between 0 and 10. A score of <4 is normal, 4-6 is intermediate and >6 is BV 21
- Genital cultures
 - Inaccurate
 - May lead to over treatment
 - Presence of gardnerella is not diagnostic

Diagnosis Without Microscopes

- DNA test "Affirm"
- Biostar's "Acceava"
- A combination of pH, whiff test and the hydrogen peroxide test
 - Mix a drop of 3% hydrogen peroxide with vaginal secretions on a microscope slide will immediately produce foaming bubbles in the presence of white blood cells typically found in trichomonas infection and desquamative inflammatory vaginitis, but will not react with candidiasis or bacterial vaginosis

Who Should Be Screened?

- All pregnant women with a Hx of preterm labor or PROM
- All symptomatic women
- All women at risk of other STDs
- All women scheduled for GYN invasive procedures

ACOG and the CDC does not recommend routine screening for all pregnant women, due to conflicting data and poor treatments

Advantages of Universal Screening

- May identify cases in low risk populations
- BV is simple to identify and treat
- May prevent preterm labor and related complications in as many as 50% of women

Disadvantages to Universal Screening

- Additional cost
- Over treatment more likely
- Overuse of antibiotics
- Stress on parents
- Not 100% treatable

Another Approach

- Screen all women with a two step method
 - Test pH
 - Look and smell vaginal discharge
 - If pH >4.5 and/or discharge are present, obtain a wet mount

If Women Test Positive, What Next?

- Educate about risks
- Inform them of options of treatment
- Clarify their treatment choice
- Plan on retest and retreat if needed

What Are the Medical Treatment Options?

- Drugs

Treatment is 70% effective

- Screen and retreat
- Try different drugs

Recommended Drug Therapy

In pregnancy:

- Cleocin 300 mg BID x 7 days
- Metronidazole 500 mg BID x 7 days
- **In non-pregnant women:**
- 75% Metronidazole cream
BID x 5 days
- 2% Cleocin BID x 7 days

Holistic Approaches Other Than Drugs

- Prevention - educate clients and partners on predisposing factors
- General health maintenance
- System support
- Encourage lactobacilli growth by eating acidophilus yogurt
- Use of hydrogen peroxide washes

How to Use Hydrogen Peroxide Wash

- 30 cc of hydrogen peroxide (3%) is instilled into the vagina, with hips elevated, left for 3 minutes and drained
- Should be done in the 1st or 2nd trimester
- It is done one time
- Retest after 3 weeks

Advantages to Hydrogen Peroxide

- Dirt cheap
 - Cost less than \$1.00
- No side effects
- Simple to use
- One time use assures compliance
- Hydrogen peroxide mimics the natural action of the vagina in maintaining healthy flora

How Effective Is Hydrogen Peroxide?

- One study* shows symptoms cleared completely in 78%, improved in 13%, and remained unchanged in 9%
- Mixed anaerobes isolated in all women before treatment were not re-isolated, and microscopy did not show clue cells in the vaginal discharge following treatment
- Vaginal acidity was restored to normal in all but one (96%)
- No side-effects were observed in the treated women

** According to Wincelous SJ; Calver G; Maidstone
Int J STD AIDS. 1996 Jul;7(4):284-7.*

What About Other Herbal Treatments?

- Tea tree oil suppositories used at Community Midwifery Services from 1996-1999 worked less than 25% of the time
- Herbal vaginal suppositories with Old Man's Beard (*usnia* spp.) and Comfrey Root (*symphytum officinale*) worked less than 10% of the time

Non-pharmaceutical Methods Reported but Not Used or Studied

- Acidophilus tablets inserted vaginally
- Yogurt douches
- Echinacea douches (not recommended during pregnancy)
- Boric acid capsules inserted vaginally

Conclusion

- In pregnant women with bacterial vaginosis, a higher incidences of preterm birth, pregnancy loss, and PROM *may* be significantly decreased with appropriate therapy
- Women *at risk* should be screened early and routinely, treated regardless of symptoms
- Checking discharge and odor should be routine for all pregnant women, optional testing vaginal pH
- Hydrogen peroxide is an effective treatment for BV, if used appropriately
- Metronidazole taken orally has been shown to reduce preterm labor rates but does not always work for BV
- Whatever treatment regime is used, women should be reevaluated and retreated for recurrences
- Parents should be educated and given options for treatment
- Untreated BV in full term women is not a significant risk for out of hospital delivery