

A logic model (LM) analysis for differentiating bacterial vaginosis (BV), group B streptococcus vaginitis (GBSV), and desquamative inflammatory vaginitis (DIV), and the vaginal health (VH)

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Background:

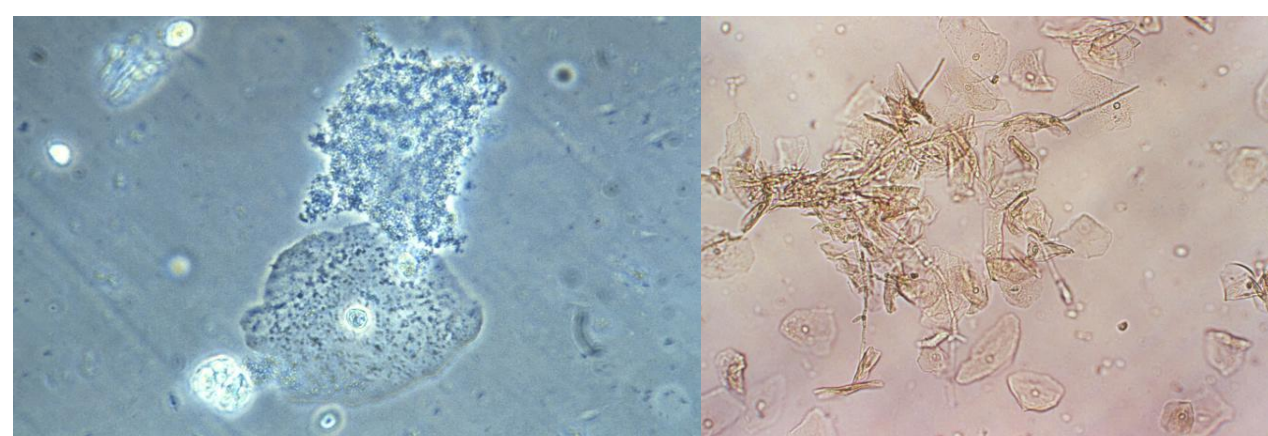
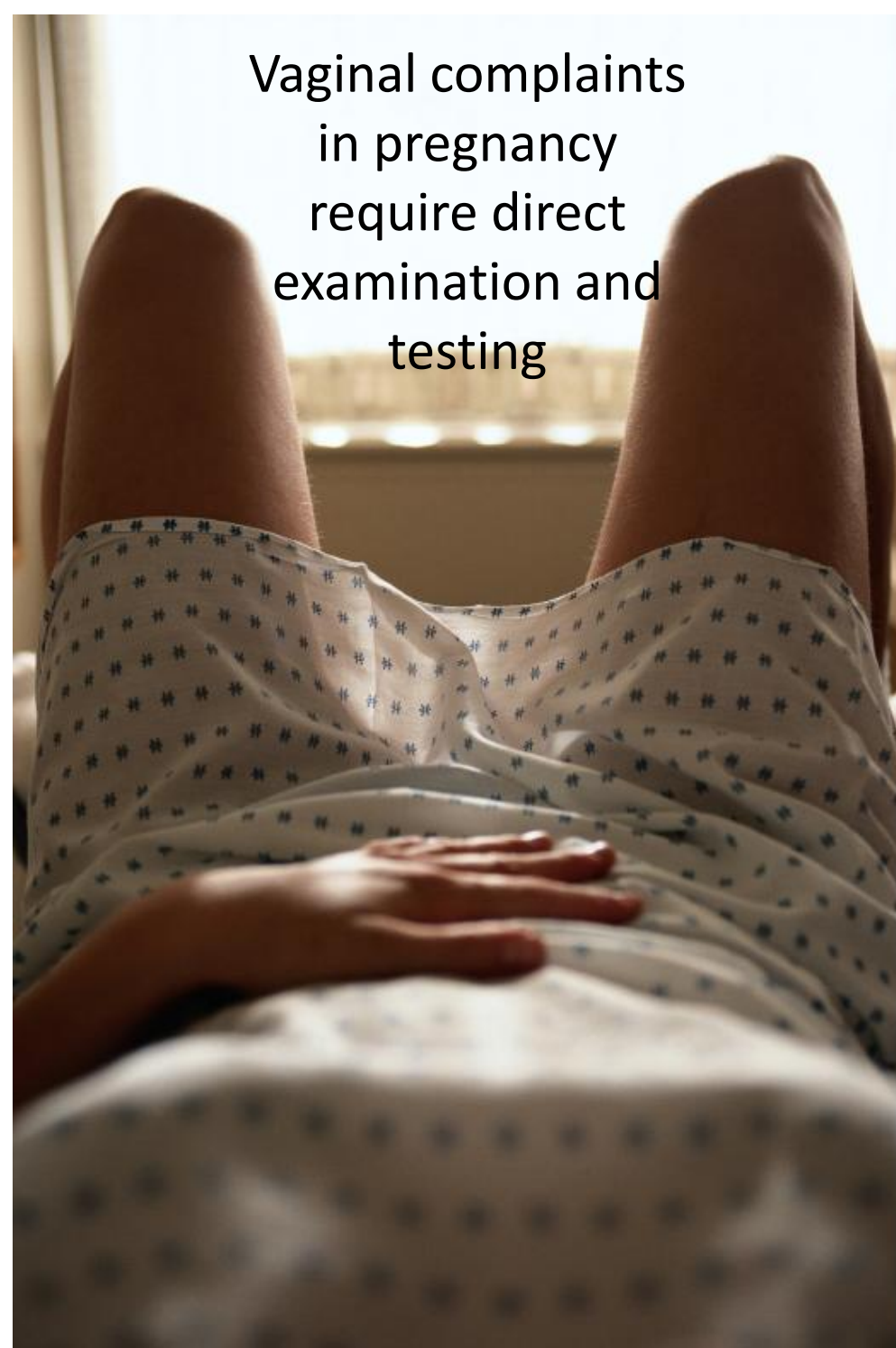
Lower reproductive tract infection (LRTI) is considered to be associated with reproductive loss (stillbirth, miscarriage, preterm birth, and neonatal sepsis) in 20-50% of loss worldwide. As yet lower reproductive tract infection/inflammation is not systematically evaluated by patients or providers.

Goals:

1. Conduct a logic model analysis to facilitate identification of common LRTI conditions linked to reproductive loss.
2. Simplify diagnostic approaches to identify common LRTIs.

Method:

1. We conducted a LM-oriented search and analysis of LRTIs and pregnancy by utilizing electronic databases using the search terms bacterial vaginosis (BV), group B streptococcus (GBS), desquamative vaginitis (DIV), and vaginitis (V).
2. We constructed a LM matrix to organize symptoms, signs (appearances), vaginal pH, low-magnification microscopy and vaginal discharge (VD) quantitative aerobic culture
3. We correlated findings so they may be useful by community patients and providers



BV, characteristic clue cell

Candida

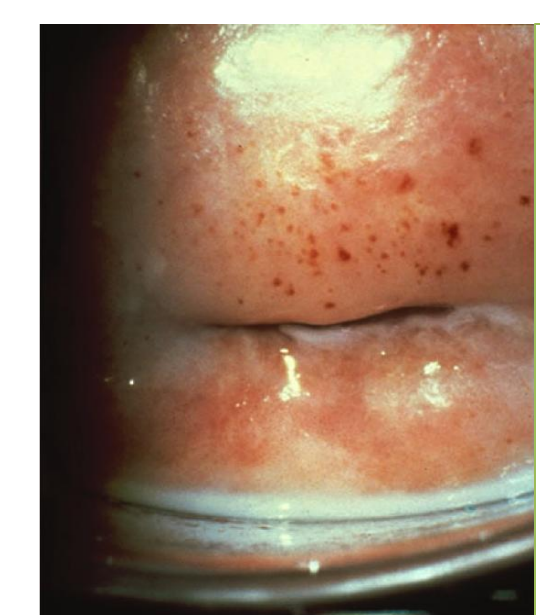
	DEFINITION
BACTERIAL VAGINOSIS (BV)	A disordered bacterial population (dysbiosis) that happens when there is too much of certain types of bacteria in the vagina. This changes the normal healthy self-sustaining balance of bacteria in the vagina (pH consistently over 5/basic)
GROUP B STREPTOCOCCUS VAGINITIS (GBSV)	An inflammation of the vagina caused by GBS bacteria
DESQUAMATIVE INFLAMMATORY VAGINITIS	An inflammation of the lining of the vagina commonly featuring overgrowth of group B streptococcus
YEAST	An infection caused by the yeast <i>Candida</i> species
PRURITIS (ITCHING)	Uncomfortable, irritating sensation that creates an urge to scratch. Does not imply a specific disease or infection.

Results:

	BV	GBS	DIV	Yeast
Symptoms	Irritation	Vaginitis irritation	Irritation, itching	Irritation, itching
Findings	White/gray discharge	White/gray discharge	Purulent discharge	White curdy
pH	>5 basic	>5 basic	>5 basic	>5 basic
Microscopic	clue cells, many bacteria	Cocci + wbc; "pus"	"pus"	<i>Candida</i> ; yeast species
Quantitative aerobic culture	"BV flora" <i>Gardnerella</i>	GBS	GBS, others, aerobic	Yeast species

Conclusion:

1. Shared symptoms in all including irritation, pruritis, abnormal discharge, and abnormal smell
2. Shared findings: abnormal smell, grey purulent discharge
3. pH: all >5 basic
4. Distinctive Findings: grey/white, purulent, curdy discharge
5. Microscopic "*Candida*": wbc's
6. Aerobic clinical cultures
7. Overall, GBS, BV, DIV have distinctive findings. GBS overgrowth may be mistaken for other form of vaginitis including yeast.
8. Simple investigation, including aerobic culture can help identify DIV and GBS potentially complicated pregnancy



"Strawberry cervix" due to *T. vaginalis*
Source: Claire E. Stevens/Seattle STD/HIV Prevention Training Center at the University of Washington

Research Agenda:

Develop simple, predictable techniques to detect GBS, DIV, and BV, in clinical care.