

What has happened to the microscope in evaluating obstetric and gynecologic patients?

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Editorial

When examining the obstetric and gynecologic patient and important part of the pelvic examination is analysis of the patient's vaginal ecosystem. Granted, an in-office evaluation of the vaginal ecosystem can only be partially accomplished. However, failure to perform an in-office evaluation of the vaginal ecosystem results in delay in achieving an accurate diagnosis, improper administration of antibiotics, and often results in repeated office visits as well as the administration of additional antimicrobial agents, and is costly on various fronts. There is also a significant degree of frustration experienced by the patient, which results in doctor shopping or seeking alternative healthcare providers who are not trained in assessing the vaginal ecosystem. Some patients will embark on trying self-diagnosis and self-treatment which often results further alteration of the vaginal microbiome.

The microscopic examination has been cast aside because of the requirement of CLIA certification. Physicians, should continue to evaluate the vaginal ecosystem, whether or not they are reimbursed. Evaluation in the office should focus on the following:

- 1) Determining the pH of the vagina:
 - a. pH < 3.6 may indicate an over growth of Lactobacillus,
 - b. pH > 3.6 to < 4.5 may indicate a healthy vaginal bacterial community,
 - c. pH >4.5 to < 5 indicates a transition zone,
 - d. pH > 5 indicates that vaginal dysbiosis has been established, e.g. aerobic vaginitis or bacterial vaginosis or mixed vaginitis (bacterial community contains facultative and obligate anaerobic bacteria)
- 2) Color of the discharge has significance.
- 3) Presence or absence of an odor.
- 4) Microscopic characteristics:
 - a. Do the squamous cells exhibit an estrogen affect?
 - b. Are white blood cells present at a concentration of >5/40Xx5 fields indicating the presence of inflammation, possible infection?
 - c. Are the bacteria morphologically homogenous?
 - d. Are the bacteria morphologically heterogenous?
 - e. Are clue cells presence?
 - f. Are yeast cells or hyphae present?
 - g. Are trichomonads present?

Thus, determining the physical characteristic combined with the microscopic characteristics can facilitate determining a fairly accurate diagnosis based on facts. This will facilitate ordering the proper laboratory tests to confirm the diagnosis achieved by the office evaluation. This results in limiting administration of antibiotic therapy

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based on a guess. This reduces the antibiotic effect on the vaginal microbiome but on other microbiomes of the body, especially the oral, bladder, and colonic microbiomes. All these microbiomes can impact the vaginal microbiome, thus administering antibiotics for the treatment of vaginal dysbiosis can affect the vaginal microbiome directly and indirectly. The indirect effect is via the colonic microbiome serving as a reservoir for the vagina, both microbiomes can affect the urobiome. Sexual behavioral practices can impact oral and vaginal microbiomes.

The status of the vaginal microbiome does impact pregnancy outcomes, especially preterm premature rupture of amniotic membranes, premature delivery, chorioamnionitis, infection causing abortion, maternal postpartum infection, and post gynecologic surgical site infection. The simple use of a microscope, teaching residents how to interpret the microscopic findings when examining the vaginal discharge in conjunction with other office procedures used to evaluate the vaginal ecosystem has far reaching effects; not performing this simple and relatively quick analysis can have significant consequences for the patient. Let's bring back basic diagnostic techniques, sophisticated testing has a place but does not replace some of the basic tools of patient evaluation. Remember, the vaginal microbiome does not exist as an independent entity but is part of a complex of collaborating communities, i.e., microbes and human cellular activities to maintain a healthy state. Vaginal dysbiosis can have consequences that affect the general well-being of the individual.

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