10% POTASSIUM HYDROXIDE (KOH) VAGINAL WET MOUNT

PURPOSE

The KOH wet mount is used for the direct microscopic identification of yeast and pseudohyphae in vaginal secretions.

PRINCIPLE

Specimens that include cellular material from vaginal epithelial cells, WBC's and bacteria need to have this background material dissolved by the KOH to make the yeast and pseudohyphae more visible.
TESTING PERSONEL

- Qualified Licensed Physicians
- Qualified Licensed Nurse Practitioners, Physician Assistants, Midwives

Interns, residents and fellows enrolled in an ACGME approved training program may perform KOH wet mount procedures when supervised by a qualified, licensed provider.

SPECIMEN

- Freshly collected vaginal wall swabs in a test tube with 0.5 ml of normal saline.
- Specimen labeling is not required when testing is performed in the presence of the patient and only the sample from one patient is tested at a time. If there is the potential for specimen mix-up, the sample tube must be labeled with patient’s full name and medical record number.

EQUIPMENT, REAGENTS AND SUPPLIES

A. Equipment:

Binocular microscope with 10x and 40x objectives. Preventive maintenance should be done annually, evidenced by a dated label on the microscope.

B. Reagents:

10% Potassium hydroxide (KOH) in a dropper bottle, available from SFGH Pharmacy.

0.9% NaCl in a dropper bottle, available from SFGH Pharmacy.

C. Supplies:

1. Disposable test tube
2. Cotton swabs
3. Glass slide
4. Coverslip

PROCEDURE

A. Using two patient identifiers, verify patient identity and explain procedure to the patient and/or family.

B. Observe universal precautions; wear gloves and other personal protective equipment as
appropriate. Concentrated KOH is a highly corrosive liquid.

C. Check the appearance of the Saline and 10% Potassium hydroxide (KOH) solutions. They should be clear with no visible contamination.

- If the solutions are clear, proceed with test.
- If the solutions are not clear, discard and obtain new solutions from the SFGH Pharmacy, then proceed with test.

D. Store the 10% KOH at room temperature and check the expiration date. Only use the KOH and Saline solutions if before the expiration date.

E. Use warm water to lubricate the vaginal speculum. Lubricant can interfere with slide analysis. Use two cotton swabs together and swab the middle third of the lateral walls of the vagina. To prevent drying of the sample and to dilute the specimen so that individual cells can be seen better, place the swabs immediately in a test tube with 0.5 ml of normal saline and mix well. Hold specimen at room temperature.

F. Apply 1 drop of the vaginal secretion-saline mixture to a glass slide.

G. Apply 1 drop of 10% KOH to the vaginal secretion-saline mixture on the slide. Smell the mixture. This is the “whiff” test for Gardnerella vaginalis. A fishy odor suggests bacterial vaginosis.

H. Place a cover slip on the specimen. Let the specimen stand for 2 to 5 minutes to allow for the clearing process to occur.

I. Examine the KOH specimen under low power (10x) and scan the cover slip area, and then again at high power (40x) and look for yeast cells, budding yeast, and pseudohyphae.

J. Dispose of swabs and other contaminated materials in a Biohazard waste container. Slides should be discarded in sharps container.

RESULTS AND PRECAUTIONS

Yeast elements can be difficult to differentiate from cotton fibers and other debris. True pseudohyphae crisscross epidermal cells in a random fashion and the strands are usually of a uniform diameter.

REPORTING OF RESULTS

- Report the presence or absence of yeast, budding yeast or pseudohyphae.
- Document in a designated place on the physical assessment form or on the progress record.
LIMITATIONS OF PROCEDURE

- The KOH wet mount procedure should be done immediately after sampling for optimal recovery of fungal elements.

- Failure to visualize yeast and pseudohyphae on KOH wet mount does not completely exclude vaginal yeast or fungal infections.

REFERENCES


IX. DISTRIBUTION:

A. Point of Care Master Procedure Binder (2M14)

B. Approved Point of Care Testing Locations