# Letters to the Editor

The Journal welcomes Letters to the Editor; if found suitable, they will be published as space allows. Letters should be typed double-spaced, should not exceed 400 words, and are subject to abridgment and other editorial changes in accordance with journal style.

## Diagnosis of Candida Vaginitis

To the Editor:

The development of sensitive and specific techniques for the diagnosis of Candida vaginitis would be of great benefit to the practicing physician. Bergman et al *(Bergman JJ, Berg AO, Schneeweiss R, Heidrich FE: Clinical comparison of microscopic and culture techniques in the diagnosis of Candida vaginitis. J Fam Pract 1984; 18:549-552)* have provided a step in that direction, but some concerns about their work remain.

For laboratory tests to be meaningful for a practitioner, he must be aware of the incidence of positive tests in the asymptomatic population. If the false-positive rate is very high, the information obtained from the test will be very low. In their study Bergman et al grouped 204 women with numerous complaints, including many that were asymptomatic, into the same diagnostic category. Therefore, it is very difficult to determine the meaning of a positive culture. Ideally, one would compare the rates of positive cultures in a symptomatic and an asymptomatic group to determine whether the culture had any discriminating value. Then one would need to treat the symptomatic patients who had a positive culture to determine whether the tests aid the effectiveness of care. None of this information is available in the above study. In addition, the authors do not make clear the central point that all the positives on the Microstix and Nickerson's media were also positive on the Sabouraud agar.

A final point of confusion concerns the flow diagram on diagnosing Candida vaginitis. In the second paragraph of the article the authors say, "there are probably few, if any, symptoms that accurately predict Candida infection." We are instructed on the flow diagram, however, to culture patients with a negative KOH preparation who have symptoms and examinations suggestive of Candida vaginitis. These two ideas seem to be somewhat contradictory in nature.

I appreciate the work of Bergman et al in trying to improve the criteria for diagnosing Candida vaginitis. Further research in this area will be a great service.

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To the Editor:

I read with interest the article by Bergman et al *(Clinical comparison of microscopic and culture techniques in the diagnosis of Candida vaginitis. J Fam Pract 1984; 18:549-552)*. I was intrigued because of the demonstration of poor sensitivity and poor predictive value of the KOH preparation for evaluation of Candida vaginitis. My clinical experience has been that I rarely encounter a negative KOH preparation in a patient with symptoms and signs suggestive of Candida vulva vaginitis. I tried to analyze the differences in our techniques.

I noted that a nurse practitioner used a cotton swab to swab the lateral vaginal wall in preparation of the KOH smear. Several years ago, perhaps by serendipity, I began using a wooden Pap smear speculum to scrape rather firmly the lateral vaginal wall in search of monilial hyphae. Since I began that technique, I have again found that my suspicion by history and physical examination is most frequently well correlated with results from the KOH preparation. It has been my unstudied hypothesis that hyphal elements are somewhat attached to the superficial epithelium and the detachment of some epithelial cells increases the yield of my KOH prep. I have tested this technique using the model of thrush in infants. I find when I swab obvious thrush lesions with a cotton swab, I find fewer hyphae than if I scrape with a wooden Pap smear spatula.

I must also admit that I feel my experience of looking at numerous KOH preparations has increased my ability to detect the hyphal elements. There was no mention in the article about the experience of the nurse practitioners who performed this test. I am certain that research-

ers are reluctant to accept the experience anecdotes of a practicing physician; however, I believe the results of this study are suspect.

*Larry W. Halverson, MD*
*Aurora, Missouri*

To the Editor:

In the recent paper by Bergman et al the authors failed to break down their data according to two subgroups of their population, ie, those women who were symptomatic for vaginitis and those women who were not. There is little question in my mind that there are many women who harbor Candida in their vaginal canal without having vaginal symptoms. It is possible that this subgroup of women accounted for much of the increased sensitivity of culture media over KOH examination. I would be interested in knowing the relative sensitivities of KOH examination in culture media in women with symptoms of vaginitis as opposed to women who may only be colonized with Candida and, hence, require no treatment at all.

*Edward J. Miron, MD*
*Calhoun, Georgia*

*The preceding letters were referred to Dr. Bergman, who responds as follows:*

Drs. Halverson and Miron raise several interesting points.

Dr. Halverson's technique for collecting specimens of vaginal discharge is innovative and deserves further study. Using the standard cotton-swab technique, we found the KOH preparation insensitive when compared with culture techniques. Our findings are consistent with the wide range of KOH yield reported in the literature. Until a better technique for collection is validated, such as that suggested by Dr. Halverson, we will continue to use office culture techniques for Candida when faced with a symptomatic woman and a negative KOH preparation.

In response to Dr. Miron, we found vaginal Candida in 11 percent of asymptomatic women,[1] comparable to previous published reports. Since no combination of symptoms or signs of vaginitis reliably predicted positive Candida cultures, we did not present KOH results subdivided by symptoms. Thus, our clinical recommendation is that a patient presenting with symptoms suggesting Candida vaginitis should have a culture performed if the KOH is negative. A "carrier" of Candida may or may not have symptoms; the Candida culture can then be completed while other causes are simultaneously entertained.

*James J. Bergman, MD*
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**Reference**

1. Bergman JJ, Berg AO: How useful are symptoms in the diagnosis of Candida vaginitis? J Fam Pract 1983; 16:509-511