Letters to the Editor

Pathogenicity of *Blastocystis hominis*

We noted with interest the letters by Rosenblatt (4) and Zierdt (6) concerning the possible pathogenicity of *Blastocystis hominis*. This discussion is particularly exciting to the microscopist, as *B. hominis* is probably the second most frequently identified organism (yeasts being the first) in the gut flora. We are concerned that all laboratories are not dealing with the same set of "facts" concerning *B. hominis* since reports on its prevalence of have varied from 0 (5) to 3.2 (2) to 17.5 (3) %. This may be due in part to differing proficiencies of technologists at recognizing the organism.

When *B. hominis* was first defined (as an artifact or yeast), the abilities of laboratorians to recognize it varied highly. *B. hominis* was frequently included in the artifact section of atlases (1), was never included on proficiency tests, and was hardly ever reported. In recent years it has been included, initially as an optional and then as a required organism, in CAP and other state and national survey samples. The recent review by Zierdt (7), however, may be the first publication of extensive high-quality photographs of the organism in its various forms and stages. In our experience it is difficult for the untrained microscopist to identify *B. hominis* with the simple hematology microscope frequently employed for parasite examinations. The frequency of identification improves dramatically when a microscope with high quality optics is employed. Since the organisms lack a cell wall and the cytoplasm is frequently condensed around the periphery, we employ phase-contrast optics as part of every examination. Additionally, we examine all specimens with a trichrome procedure and have found this stain to be excellent for recognition of *B. hominis*.

Using these procedures we have identified *B. hominis* with great frequency. At Meadowlands Clinical Laboratory (Rutherford, N.J.), we found an almost 20% positive rate. At Great Smokies Diagnostic Laboratory we found a 15 to 20% positive rate. As both labs are reference laboratories, receiving most of their specimens from patients visiting physician offices, the prevailing complaints are more chronic than acute. In a separate study of patients with acute gastrointestinal complaints from a largely immigrant population (62% Latin American and 23% Asian) visiting the outpatient GI Clinic of Elmhurst Hospital (Bronx, N.Y.), we observed a positive rate of *Blastocystis* identification of 60% (42 of 70 patients). Trichrome smears were reread at the Centers for Disease Control in Atlanta, Georgia (100% agreement), confirming the accuracy of our observations. It appears to us that this organism is very prevalent in stool samples from both acutely and chronically ill patients and that a need for improved training programs probably exists. We believe that independent of the status of this organism's pathogenicity, its presence should always be reported. Only then will physicians and researchers have the data on which to draw conclusions concerning the organism's medical signficance.

As for the question of pathogenicity, we believe that a certain confusion exists with respect to the possible involvement of this organism in chronic compared with acute illnesses. In the case of acute illness, it is important to be able to identify a unique cause and to be able to direct therapy against this cause. The case for pathogenicity of *B. hominis* in acute illness, although mostly based upon epidemiological evidence, is fairly strong but not conclusive. Clearly, the dialogue and debate are not over. The case for pathogenicity of *B. hominis* in chronic illness, however, is more complex. We frequently observe *B. hominis* in patients with diminished levels of *Escherichia coli* and/or *Lactobacillus* spp., with high fecal pH values, with low butyrate values, and/or with an overgrowth of *Candida* spp. These patients often have prolonged transit times and have assorted gastrointestinal complaints, together with a myriad of other complicating symptoms. We suspect that in these patients *B. hominis* may have a real but weak pathogenicity, contributing to illness as part of a larger picture, including nutritional and digestive components.

REFERENCES

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2. **Doyle, P. W., M. M. Helgason, R. G. Mathias, and E. M. Proctor.** 1990. Epidemiology and pathogenicity of *Blastocystis hominis*. J. Clin. Microbiol. **28**:116–121.
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4. **Rosenblatt, J. E.** 1990. *Blastocystis hominis*. J. Clin. Microbiol. **28**:2379. (Letter.)
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6. **Zierdt, C. H.** Pathogenicity of *Blastocystis hominis*. J. Clin. Microbiol. **29**:662. (Letter.)
7. **Zierdt, C. H.** 1991. *Blastocystis hominis*—past and future. Clin. Microbiol. Rev. **4**:61–79.

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Ed. Note: *Dr. Zierdt felt that no response was necessary.*

Medical Wire and Equipment Company Microring YT

A study by Shankland et al. (1) was based on a product that was manufactured by Mast Laboratories, Liverpool, United Kingdom, not by Medical Wire and Equipment Company (MW&E). MW&E had contracted Mast Laboratories in 1987 to make the Microring YT. Because of the poor performance of the Mast-manufactured product, which was the product used in the above-referenced article, MW&E severed its manufacturing agreement with Mast Laboratories in 1988. MW&E immediately proceeded to research, develop, and manufacture this product in-house. In May 1990, at the American Society for Microbiology Annual Meeting in Anaheim, Calif., a poster session was presented

by Dr. J. Perry and Dr. G. Miller, showing very favorable results. With a sample size of 572 clinical isolates, the MW&E-manufactured Microring YT correctly identified 93% of the yeast isolates. This led to MW&E receiving Food and Drug Administration (FDA) approval in August 1990. It should also be noted that the data in the article by Shankland et al. are in excess of 3 years old, having been done in 1987 and 1988. Furthermore, the article was submitted and accepted for publication at the same time that MW&E received FDA approval on the product.

We have spoken to Dr. Shankland, one of the article's authors, who informed us that an addendum was to be published stating exactly what we have said above. Because of what we hope was simply an oversight on the author's part, the addendum did not accompany the article.

It is evident that this publication has unfairly affected the acceptance of the Microring YT as a useful tool in the identification of yeasts. MW&E is constantly defending our product with the poster session results from the 1990 Annual Meeting, but because of the clout that an article published in the *Journal of Clinical Microbiology* carries, only the acknowledgment by the authors of the article and by the *Journal of Clinical Microbiology* that the Microring YT was unfairly and mistakenly reported to be a poorly peforming product will rectify this situation. A clear distinction between the FDA-approved Microring YT and the inferior Mast ring, not approved by the FDA, needs to be understood by all. The ring pictured and used in the study by Shankland et al. is circular, as were the rings manufactured by Mast Laboratories. MW&E's manufacturing process used only a hexagonal ring, which was the ring receiving FDA approval in August 1990.

We wish to publish this statement in order to rectify this situation once and for all.

Thank you for allowing us this space to voice our concerns and clear up this situation.

REFERENCE

1. **Shankland, G. S., V. Hopwood, R. A. Forster, E. G. V. Evans, M. D. Richardson, and D. W. Warnock.** 1990. Multicenter evaluation of Microring YT, a new method of yeast identification. **28**:2808–2810.

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Author's Reply

The work published in the *Journal of Clinical Microbiology* was carried out with the full knowledge of Medical Wire & Equipment Co., who supplied us with the materials tested in our study. We have no way of being sure who manufactured the Microrings tested in our study, but the fact that they were supplied to us after Medical Wire & Equipment Co. severed its manufacturing agreement with Mast Laboratories suggests that they may well have been "manufactured in-house" by Medical & Wire Equipment Co. We do not accept that the "Microring YT was unfairly and mistakenly reported" by us for the following reasons.

(i) Medical Wire & Equipment Co. is incorrect to claim that our work was carried out in 1987 and 1988. We note that Medical Wire & Equipment Co. severed its manufacturing agreement with Mast Laboratories in 1988. They "immediately proceeded to research, develop, and manufacture" the product in-house. The work presented in our article was initiated following discussions with Medical Wire & Equipment Co. (UK) in 1988. The Microrings used in our work were supplied subsequent to that discussion.

(ii) It was stated on the product packaging of the Microrings used in our work that they met the MWYT-USA specification. We were supplied with a new data base and product insert at the start of the study. The six dyes and chemicals were of the same concentrations as those used in the currently marketed product.

(iii) N. Sharples, Technical Sales Manager of Medical Wire & Equipment Co. (UK), was kept informed of the progress of the study at the end of 1988 and in 1989. Medical Wire & Equipment Co. agreed to preliminary results being presented at the annual scientific meeting of the British Society for Mycopathology in 1989. There was no indication then that the product they had given us to test was in any way different from that being marketed.

(iv) Medical Wire & Equipment Co. (UK) was sent a copy of our paper in May 1990. They then informed us that other workers (Dr. G. Miller, Dr. J. S. Matthews, and Dr. J. L. Perry) had submitted their work on the product to the *Journal of Clinial Microbiology*. We note this work has not to our knowledge been published in any form other than an abstract.

(v) At no time was it agreed by any of the authors that an addendum to our article should be published.

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