Adequately Performed Stool Ova and Parasite Examinations: Is the Best the Enemy of the Good?

To the Editor—It appears that the number “3” had—and continues to have—some unusual power over clinical microbiologists and clinicians. Three blood cultures, 3 sputum samples, or 3 stool samples for culture or stool ova and parasite (O&P) examination are examples of this. However, the few studies addressing this issue show that processing a second and/or third specimen often increases this issue. Processing a second sample for culture or stool ova and parasites (O&P) examination are examples of this. However, the few studies addressing this issue show that processing a second and/or third specimen often increases costs substantially and adds little to the diagnosis. For example, examining <3 stool cultures has been shown to be a cost-effective alternative for detecting bacterial pathogens [1]. In this context, Branda et al. [2] investigated whether 1 stool sample might suffice for stool O&P examination. However, this issue may be of less importance. Previous studies have shown that several stool samples can be pooled before processing them, without any significant loss of sensitivity [3, 4]. This appears to be a more sensible approach to reducing the costs of stool O&P examination.

The accompanying editorial by Rosenblatt [5] is very critical of the 1-specimen approach [2] and seems to endorse the ideal, “best” approach to stool O&P examination [5]. The ideal that Rosenblatt supports is certainly one that many laboratories around the world with less experience and dedication to parasitology should aspire to. However, they may find it to be more feasible and more cost effective to perform a simple iodine-stained wet mount examination of pooled, concentrated stool samples, perhaps even omitting the permanently stained smears. What would they miss? Admittedly, they would not find Dientamoeba fragilis, for example, because it does not have a cyst form. However, could permanently stained smears be overvalued in the identification of most other protozoa? We agree with Branda et al. [2] that the detection and reporting of nonpathogenic protozoa is questionable. In the absence of studies that show that these results may predict the presence of other pathogenic organisms in the gastrointestinal tract, this information is of limited clinical importance. Concerning cysts of pathogenic protozoa, Giardia lamblia cysts are usually identifiable on iodine-stained wet mount examinations, and permanently stained smears may certainly help to identify the nature of amebic cysts. However, microscopic examination does not make it possible to distinguish the apathogenic Entamoeba dispar from the morphologically identical, pathogenic Entamoeba histolytica. What does a clinician do when he or she receives a report that says, “cysts of Entamoeba histolytica/dispar”? Possibly, to be on the safe side, a clinician may often decide to prescribe treatment with the potentially toxic metronidazole, which is obviously unnecessary in cases of infection with E. dispar. One could imagine that it would be more suitable and cost effective to examine only iodine-stained concentrated wet mounts and check suspicious samples with an immunoassay to confirm the presence of G. lamblia and/or E. histolytica.

On the other hand, the screening for Coccidiae species is often not routinely recommended [6]. However, Cryptosporidium species are an important cause of diarrhea, especially in individuals with HIV infection and in children. Its resemblance to bacterial infections often leads clinicians to request only stool cultures. We use the inexpensive auramine O fluorescent stain at our institution for rapid screening of all fecal samples for Coccidiae species, including uncentrifuged feces sent in transport medium for stool cultures. Eight of 52 coccidial infections were detected only in this way. Thus, if cost containment is the principal goal, there are possibly many aspects of the recommended stool O&P examination that could and ought to be reevaluated and investigated. Some of the alterations discussed above are certainly not the best approach, but they might be good (enough).

Acknowledgments


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