

## Accurate diagnosis is essential for amebiasis

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Amebiasis is one of the three most common causes of death from parasitic disease, and *Entamoeba histolytica* is the most widely distributed parasites in the world. Particularly, *Entamoeba histolytica* infection in the developing countries is a significant health problem in amebiasis-endemic areas with a significant impact on infant mortality<sup>[1]</sup>. In recent years a world wide increase in the number of patients with amebiasis has refocused attention on this important infection. On the other hand, improving the quality of parasitological methods and widespread use of accurate techniques have improved our knowledge about the disease.

We read with interest the publication by Ustun *et al.*<sup>[2]</sup> and would like to comment on both the differentiation of *E. histolytica/Entamoeba dispar* and therapeutic approach to amebiasis in inflammatory bowel disease (IBD) cases. We strongly agree that IBD sometimes can co-exist with amebiasis. This infrequent phenomenon may also arise from inaccurate diagnosis, however before the specific anti-inflammatory treatment initiation for IBD, empirical anti-amebic treatment is usually suggested in the hyper-endemic regions. We think that those prevalences (54% and 69%) from other Turkish studies reported on the discussion section seem to be very high, and suggest the possibility of overdiagnosis. The current data given on subjects with IBD and controls clearly showed that the disease not only diminishing in Turkey but also accurate diagnosis of amebiasis with permanent staining technique maximized obtaining more valid results, as authors stated in their articles.

We also would like to note another recent article about climatic pattern of amebiasis in Turkey, published by Erdem *et al.*<sup>[3]</sup>, in a similar point of view for the accuracy of the diagnosis. Single microscopic examination is not a recommended diagnostic tool for accurate diagnosis of luminal amebiasis. Microscopy (also not clear in the article<sup>[3]</sup> whether permanently stained smears such as trichrome staining was used or not) is one of the most difficult and insensitive techniques to interpret. In some cases, false positive results might be due to identification of human white blood cells as amoebae<sup>[4-6]</sup>. Also, it did not allow to differentiate *E. histolytica* from *E. dispar* by using only trichrome staining method because both had similar morphological features as stated<sup>[2]</sup>. Numerous studies have demonstrated the insufficiencies of microscopic examination in the diagnosis of *E. histolytica*<sup>[4]</sup>. After the re-classification

of *Entamoeba* genus, it is essentially important to distinguish the 2 morphologically identical but biologically and immunogenetically different species: *E. histolytica* and *E. dispar*<sup>[1,7,8]</sup>. In addition to this, *E. dispar* is the more prevalent strain than *E. histolytica* all over the world. Morphologically, the presence of ingested red blood cells in trophozoites is not adequate for the diagnosis of *E. histolytica* since Haque *et al.*<sup>[9]</sup> have demonstrated that some *E. dispar* trophozoites might also contain ingested erythrocytes. So that, microscopy had a low sensitivity and could easily mislead the clinicians. At present, among the traditional and conventional approaches to the diagnosis of amebic colitis and liver abscess, serological testing remains an important instrument. In addition to this, for a decade there has been a reliable stool antigen detection using ELISA, which has a very high sensitivity and a good clinical correlation. Another important point to remember, if there is a high prevalence of intestinal amebiasis in a certain geographical area, then it should have been a large number of cases with extra-intestinal involvement and a high prevalence rate of specific antibody. So far, these indirect indicators have a very low percentage in Turkey.

The diagnosis and treatment of IBS in patients without appropriate diagnosis of intestinal amebiasis are a great challenge. The clinical presentations are very similar, and inaccurate laboratory methods could be misleading and even endoscopic examination might not solve the diagnostic dilemma. It is more realistic to start empirical anti-amebic treatment, preferably with metronidazol derivatives despite the fact that it would postpone the treatment for IBD as stated in classical medical literature.

In summary, since microscopy is neither sufficiently sensitive nor specific for the diagnosis of *E. histolytica* infection, it is essential to perform an antigen detection using ELISA<sup>[9]</sup> or PCR analyses for accurate the diagnosis of intraluminal amebiasis to provide a more reliable comment on the epidemiological pattern and clinical impact of the disease.

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