

**Intestinal amebiasis** is caused by the protozoan *Entamoeba histolytica*. Worldwide, approximately 40 to 50 million people develop colitis or extraintestinal disease annually with 40,000 deaths. Most infection is asymptomatic, but amebic dysentery, amebic liver abscess, and rarely other manifestations such as pulmonary, cardiac or brain involvement can occur. Amebic liver abscess and the other rare extraintestinal complications are discussed separately.

The parasite exists in two forms, a cyst stage which is the infective form, and a trophozoite stage which is the form that causes invasive disease. Infection occurs following ingestion of amebic cysts; this is usually via contaminated food or water but can be associated with venereal transmission through fecal-oral contact, particularly in sexually active homosexuals. Cysts can remain viable in the environment for weeks to months, and ingestion of a single cyst is sufficient to cause disease. The cysts pass through the stomach to the small intestine where they excyst to form trophozoites. The trophozoites can invade and penetrate the mucous barrier of the colon causing tissue destruction and increased intestinal secretion, and can thereby ultimately lead to bloody diarrhea.

It has become progressively apparent over the last 15 to 20 years that intestinal amebae with identical morphologic appearances can in fact be **one of three species**, *E. histolytica* or *E. dispar* or *E. moshkovskii* [3]. Multiple techniques that rely on the genetic, antigenic, biochemical and pathogenic differences between the three species have been developed to help differentiate them in clinical specimens [3]. The clinical importance is that *E. dispar* and *E. moshkovskii* are non-pathogenic and do not cause clinical disease; thus all symptomatic disease is caused by *E. histolytica*. (See "Nonpathogenic enteric protozoa").

Amebiasis is a worldwide disease, however developing countries have significantly higher prevalence rates because of poorer socioeconomic conditions and sanitation levels. Areas that have high rates of amebic infection include India, Africa, Mexico and parts of Central and South America. *E. dispar* and *E. moshkovskii* infections occurs approximately ten times more commonly than infection with *E. histolytica*, and the overall prevalence of amebic infection may be as high as 50 percent in certain developing areas. Although many epidemiologic studies of amebiasis were performed prior to the recognition of the three distinct species, more recent antigen detection methods and serology have been used to estimate the prevalence of *E. histolytica* infection. As an example, the seroprevalence of *E. histolytica* in one Mexican study was 8.4 percent. In another series from urban Bangladesh, children had a 4.2 percent prevalence rate of *E. histolytica* infection.

In developed countries such as the United States, amebiasis is mainly seen in migrants from and travelers to endemic countries. Institutionalized patients and sexually active homosexuals are also at increased risk of infection. Infection with pathogenic *E. histolytica* is not a common cause of travelers' diarrhea, and gastrointestinal infection is uncommon in travelers who have spent less than one month in endemic areas. In one prospective study of German travelers to the tropics, only 0.3 percent had pathogenic *E. histolytica* infection.

In the US and Europe, homosexual males are principally colonized with nonpathogenic *E. dispar* and in these regions, HIV-infected patients experienced neither heightened intestinal nor extraintestinal amebiasis. In Japan and Taiwan, however, *E. histolytica* is much more prevalent amongst male homosexuals. Invasive, extraintestinal amebiasis (eg, hepatic abscesses) are more frequent in HIV-infected patients in these countries, whereas the same is not true elsewhere, including Mexico.

**Metronidazole** (500 to 750 mg PO three times daily for 7 to 10 days in adults is the usual treatment for invasive colitis. Patients with invasive colitis should generally be treated with a luminal agent following a nitroimidazole. Paromomycin and diiodohydroxyquin (iodoquinol) are available in the United States. **Asymptomatic patients** with *E. histolytica* (and not *E. dispar*/*E. moshkovskii*) should be treated with an intraluminal agent alone. Asymptomatic *E. histolytica* infection should be treated because of the potential risk of developing invasive disease and the risk of spread to family members.

**PREVENTION** — Prevention of amebic infection in travelers involves avoidance of drinking unboiled or unbottled water in endemic areas. Uncooked food such as fruit and vegetables that may have been washed in local water should also not be consumed. Amebic cysts are resistant to chlorine at the levels used in water supplies, but disinfection with iodine may be effective. Avoiding sexual practices that may lead to fecal-oral contact is also advisable