

Editorial**Amebiasis: Tip of An Iceberg****Mohsin Masud Jan**

Editor

Amebiasis is an important disease of humans and other primates caused by a protozoan parasite *Entamoeba histolytica*, that is found throughout the world. The highest prevalence of amebiasis is found in developing countries where the barriers between human feces and food and water supplies are inadequate. Although most cases of amebiasis are asymptomatic or subclinical, however, dysentery, fever and invasive extraintestinal disease can occur.

Amoebic liver abscess is the most common manifestation of invasive amebiasis, but other organs can also be involved, including pleuropulmonary, cardiac, cerebral, renal, genitourinary, peritoneal, and cutaneous sites. In developed countries, amebiasis primarily affects migrants from and travelers to endemic regions, men who have sex with men, and immunosuppressed or institutionalized individuals. *E. histolytica* is transmitted by ingestion of the cystic form of the protozoa. Amoebic cysts can survive in the environment for weeks to months.

These cysts can be found in fecally contaminated soil, fertilizer or water or on the contaminated hands of food handlers. Feco-oral transmission can also occur in the setting of anal sexual practices or direct rectal inoculation through colonic irrigation devices. Excystation then occurs in the terminal ileum or colon, resulting in trophozoites, which is an invasive form of the parasite.

The trophozoites can penetrate and invade the colonic mucosal barrier, leading to tissue destruction, secretory bloody diarrhea, and colitis resembling inflammatory bowel disease. In addition, the trophozoites can spread hematogenously by means of portal circulation to the liver or even to more distant organs.

Laboratory diagnosis of amebiasis is made by demonstrating the organism or by employing immunologic techniques. In addition to standard blood tests, other laboratory studies employed for diagnosis include microscopy, culture, serologic testing, and polymerase chain reaction (PCR) assay. Treatment of amebiasis includes pharmacologic therapy, surgical intervention, and preventive measures, as appropriate. Worldwide, approximately 50 million cases of invasive *E. histolytica* disease occur each year, resulting in as many as 100,000 deaths.

This represents the tip of the iceberg because only 10% - 20% of infected individuals become symptomatic. The incidence of amebiasis is higher in developing countries. Earlier estimates of *E. histolytica* infection, based on examination of stool for ova and parasites, are inaccurate, because this test cannot differentiate *E. histolytica* from *E. dispar* and *E. moshkovskii*.

The prevalence of *Entamoeba* infection is as high as 22% in the metropolitan city of Lahore from three. One hundred and thirty five (22.5%) of the 600 samples examined were positive for *E. histolytica* cysts in the triple test fecal examination, while 101 (16.8%) of the 600 samples were positive for antigens of *E. histolytica* in the antigen ELISA. We found that 15 (11.1%) of 135 positive triple test positive samples were negative by fecal antigen ELISA. Five (11.3%) samples from upper class, 3 (7.6%) from middle class, and 7 (13.4%) from lower class were triple fecal test positive samples that were negative for fecal antigen ELISA. It is possible that this prevalence represents the prevalence of *E. dispar* or *E. moshkovskii* in our population.

Overall the highest seasonal prevalence was recorded during summers, whereas lowest during winters in both dogs and humans. It was recorded that a higher infection rate was recorded in the young. Infection was slightly higher in males than females. Sewerage water is more contaminated than tap water. Cysts of *Entamoeba histolytica* are also present in soil samples.

Metrological data played very important role in the causation of disease. One hundred and twenty (120) dogs were used in 12 controlled experiments to compare the efficacy of *Nigella sativa*, *Saussurea lappa* and *Allium cepa* with metronidazole against amoebiasis.

Efficacy was calculated on basis of reduction of cysts per gram of feces. The highest efficacy was noted in allopathic drug i.e metronidazole followed by *Nigella sativa*, *Saussurea lappa* and *Allium cepa*.

The use of *Nigella sativa* and *Saussurea lappa* was recommended for routine use. No side effects were found in any of the indigenous drugs. It was also concluded that all serum enzymes, blood parameters and serum electrolytes become normal after treatment.