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Heart to Heart Talk

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Amebiasis

What is amebiasis?

Also known as entamebiasis, this protozoal infection of the colon is caused by *Entamoeba histolytica*, a one-celled parasite, and is usually asymptomatic (no symptoms). When clinical manifestations are present, they may range from mild diarrhea to severe dysentery to complications involving some vital organs.

What is *Entamoeba dispar*?

This is another form of amebiasis, and is caused by *E. dispar*, about 10 times more common than the infection with *E. histolytica*, but very mild and mostly asymptomatic. Many times, those patients (mis)diagnosed to have *E. histolytica* infection, but who have no symptoms whatsoever, are actually infected with *E. dispar*.

How is the infection transmitted?

The infection may be transmitted directly from person to person (through amoeba cysts) or indirectly through contaminated water or food from infected food handlers or lack of personal hygiene among them. Most often, the infection occurs when a person ingests food or water contaminated with feces from an infected individual, or by touching a surface that has amoeba cysts and putting the fingers in the mouth. The onset of the illness starts within 1 to 4 weeks, but could be longer or shorter, depending on the “dose of contamination” and the person’s body resistance.

Who are the usual victims?

Anyone (including the rich and famous) can get amebiasis but the most usual victims are people in developing countries who have poor sanitary conditions, living in crowded dwellings with contaminated water sources. They are obviously also common among traveling immigrants from these third world nations.

Is amebiasis a sexually transmitted disease?

Yes, among male homosexuals, who indulge in anal sex. The feces that contain amoeba cysts are the source of infection. Unlike the trophozoite form of the *E. histolytica*, which dies fast outside the body, the cysts are resistant to the external environment and survive even on the surface of furnitures, etc.

How do the amoebae cause injury?

The amoebae stick to the inner wall of the colon and kill the lining epithelial cells, leading to severe diarrhea with mucus and blood. The protozoa also secretes proteases that destroy the extracellular matrix of the colon and allow invasion into the bowel wall and beyond. Amebas can also invade the portal (liver) circulation and cause liver abscesses. This infection then spreads from the liver to the adjacent organs, or through the blood circulation to the lungs, brain and other organs.

What are the signs and symptoms?

The majority of people are asymptomatic. They have the infection and continue to excrete amoeba cysts in their stools but appear as normal as can be. When the cysts and their enzymes invade the tissues, intermittent diarrhea, flatulence, constipation, abdominal cramps develop. The feces may have mucus and blood and the area over the liver and ascending (right) colon may be tender. Other symptoms will depend on the other organs affected.

What is amebic dysentery?

This is the severe acute form of the infection, where there are episodes of frequent diarrhea of semi-liquid stools, containing mucus, blood and live trophozoites. There is high fever, dehydration, and toxic symptoms, mild tenderness to frank abdominal pains, enlarged and painful liver. There may be relapses, emaciation and anemia.

What is the chronic form of amebiasis?

The chronic or long standing form shows diarrhea with mucus, abdominal cramps, flatulence and weight loss. There may also be palpable tender masses in the ascending colon or cecum (part of the colon connected to the small intestine), which could feel like cancer masses, but they are actually amebomas (benign tumor cause by the chronic irritation, inflammatory changes and scar formation in the colon).

How is the diagnosis made?

The diagnosis does not come easy. The milder non-dysenteric form of amebiasis is commonly confused with irritable bowel syndrome, diverticulitis, or

regional enteritis, ulcerative colitis, etc. Hepatic (liver) amebiasis and amebic abscess must also be distinguished from other liver ailments. Several stool samples from different days may be needed for examination. The presence of trophozoites in the stools or biopsied recto-sigmoid part of the colon clinches the diagnosis. Extra-intestinal form of this infection is harder to diagnose.

Any other tests?

Yes, greater than 80% of those with amebic dysentery and almost 100% of those with amebic liver abscess have positive serologic tests. Among those without symptoms, only about 10% are positive. The most sensitive tests available are the indirect hemagglutination and the enzyme-linked immunosorbent assays (ELISA). The antibody titers following infection could remain positive for months or years. Radioisotopic liver scan or CT scan may show the location and size of the liver abscess. Ultrasound will also demonstrate the fluid present in the abscess cavity. Needle aspiration is done for lesions that are larger than 10 cm, those suspected to have imminent liver rupture, and those who do not respond after five days of drug treatment.

How can one prevent amebiasis?

Personal hygiene and any practice to preclude contamination of water and food with human feces will prevent amebiasis. Thorough hand-washing after using the toilet, after changing baby diapers, and each time before eating are effective means of preventing the infections. Maintaining and cleaning the home (especially the bathrooms, kitchen, and dining area) properly every day are also helpful. The normal level of chlorine in the water which kills bacteria will not kill the *E. histolytica* cysts. Boiling or treating water with tetracycline hydroperiodide tablets will kill the cysts.

What is the treatment for amebiasis?

The treatment varies and is tailored to the type of amebic infection. The basic regimen includes relief of symptoms, blood replacement where needed, correction of fluid and electrolytes. Some of the drugs used depending on the form, severity of the infection, and presence of spread to other organs, are: diloxanide flurate, iodoquinol, metronidazole, emetine or dehydroemetine, choloquine. Since these drugs could potentially have serious toxic side-effects, consultation with, and supervision by, a physician is mandatory during the entire course of therapy.

How does one prevent it while traveling?

When traveling to developing countries, or to any area where sanitation is suspect, drink only commercially distributed bottled water, or water boiled for at least 1 minute, or carbonated pop beverages. Filtering water yourself using “absolute 1 micron or less filter” and dissolving iodine tablets to the filtered water will render water safe for drinking. These could be found in camping and outdoor supply stores. Also, do not eat fresh fruits and vegetables that you did not prepare yourself, and do not drink milk nor eat cheese or dairy products, which may not have been pasteurized. Stay away from food or drinks sold by street vendors.