

Case 15.1

A 23 year old graduate student complaining of fever and pain in the upper right abdomen was admitted to the hospital for diagnosis and treatment. The student had just returned from a 3 month group expedition to the Galapagos Islands. In route the group stopped in Costa Rica and many developed diarrhea. With symptomatic treatment (kaopectate) all but the patient recovered in a few days. His diarrhea became worse and within a week he was passing 10-12 liquid stools per day; he reported cramping, abdominal pain and some stools appeared bloody. He took a medication (Enterovioform) recommended by a local pharmacist and improved but continued to have loose stools and lost weight during the stay in the Galapagos Islands. On the trip back to the university he became feverish and developed the pain the upper right abdomen. He had no previous history of any chronic illness.

Physical examination revealed a well developed, white male who appeared chronically ill. On admission the following was observed; temperature, 37.6o C; blood pressure, 134/78; and pulse, 84 and regular. In the following days, the patient exhibited a daily fever (39o C) spiking in the afternoon. A smooth, very tender liver edge was palpable 3 finger breaths below the right costal margin and there was moderate tenderness over the cecal area. Rectal examination revealed some dark, semi-formed stool which was positive for occult blood. Other physical findings were not remarkable. Blood count indicated a moderate leukocytosis (17,000) with 70% polymorphonuclear leukocytes. Blood chemistries were within normal limits except for an elevated alkaline phosphatase. Urinalysis was unremarkable.

Question 1. What types of infectious agents can cause abdominal pain? Explain.

- A) bacteria
- B) protozoa
- C) helminths
- D) viruses
- E) all of the above

Question 2. The bloody stools and fever indicate? Explain.

Question 3. The patient's disease in Costa Rica is likely an infectious diarrhea that could be caused by which of the following agents? Explain.

- A) Enterotoxigenic *E. coli*, a typical cause of traveler's diarrhea
- B) *Shigella*, *Salmonella*, *Campylobacter*
- C) *Entamoeba histolytica*
- D) *Giardia*, *Cryptosporidia*
- E) Both B and C

Question 4. The examination suggested a liver abscess in the right lobe elevating the right diaphragm and a possible bleeding colonic ulcer(s). What infection(s) would be consistent with these finding and the earlier diarrheal disease?

Question 5. How could you establish or rule out diagnosis of amebic liver abscess?

Case 15.2

A 23 year old graduate student complaining of fever and pain in the upper right abdomen was admitted to the hospital for diagnosis and treatment. The student had just returned from a 3 month group expedition to the Galapagos Islands. In route the group stopped in Costa Rica and many developed diarrhea. With symptomatic treatment (kaopectate) all but the patient recovered in a few days. His diarrhea became worse and within a week he was passing 10-12 liquid stools per day; he reported cramping, abdominal pain and some stools appeared bloody. He took a medication (Enterovioform) recommended by a local pharmacist and improved but continued to have loose stools and lost weight during the stay in the Galapagos Islands. On the trip back to the university he became feverish and developed the pain the upper right abdomen. He had no previous history of any chronic illness.

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Question 2. This case has presented a common and dangerous complication of amebiasis. It is estimated that there are worldwide 50 million cases of invasive amebic colitis or liver abscess with 100,000 to 400,000 deaths per year. How could you establish or rule out diagnosis of amebic liver abscess?

Question 3. The reason(s) for the regional differences in the importance of clinical amebiasis are complex. A most important factor is considered to be?

Question 4. Is amebiasis caused by a prokaryotic or eukaryotic organism? How would you treat it? Explain.

Question 5. The infection cycle and epidemiology are well known. The infective stage, the cyst, is transmitted by the fecal-oral route by contaminated water or food or by direct contact. In evaluating the probability of exposure of a patient to virulent *E. histolytica* what factors would you consider?