**GASTRIC CRYPTOSPORIDIOSIS IN HIV**

**INTRODUCTION**

*Cryptosporidium parvum* is a common protozoal infection that has been recognized as a human pathogen since 1976. It causes self-limited diarrhea in immunocompetent hosts, but severe and prolonged diarrhea in immunocompromised individuals, particularly those with HIV infection.

*Cryptosporidium parvum* has been detected with increasing frequency in the gastrointestinal tract but involvement of the stomach is rarely reported.

The aim of this case report is to present the clinical, pathologic and endoscopic features of *Cryptosporidium* associated erosive gastritis and to highlight the importance of upper endoscopy and biopsy in diagnosis of this entity.

**CASE REPORT**

A 24 year-old female, with a history of sexually acquired HIV on no medication, presented complaining of epigastric abdominal pain associated with nausea and non-bloody vomiting for 7 days. In addition, she reported watery, non-bloody diarrhea for 3 months. She had a 10 pound weight loss, but denied any fever, chills, or change in appetite. She denied any previous abdominal surgery.

Physical examination on admission revealed an afibrile, cachectic female with generalized wasting. She had mild epigastric tenderness without rebound or guarding and no masses or hepatosplenomegaly was noted.

Laboratory studies revealed 12.9 mg/dl Hgb, with the base line Hgb of 12-13 mg/dl, WBC = 1.7 with 61.6% neutrophils, 18.6% lymphocytes and a low CD4 count (< 20). Stool work up was negative for ova and parasites x 3, including *Cryptosporidium parvum*, wright stain and stool cultures were negative for WBCs and bacteria.

Upper endoscopy and colonoscopy were performed. The antral mucosa was markedly erythematous, edematous and the mucosal surface was markedly friable. Thickened gastric folds were seen. Biopsies were taken of these areas. The colonic mucosa appeared normal.

Histopathologic examination of antral and duodenal mucosal biopsies showed chronic active gastritis with extensive cryptosporidiosis and H. pylori organisms. Biopsies from the colonic mucosa were positive for *Cryptosporidium parvum* as well.

In view of these findings, therapy with Alinia 500 mg twice daily was started. After 2 weeks, clinical improvement was observed with reduction of both epigastric pain and diarrhea. Repeat endoscopy 8 weeks later showed normal gastric mucosa. No organisms were identified on repeat antral and duodenal biopsies.

**UPPER ENDOSCOPY**

Upper endoscopy showed markedly erythematous, edematous and friable mucosa in the antrum. A clear line of demarcation between the friable and normal mucosa was seen. Biopsies of these areas were taken.

**GASTRIC ANTRAL BIOPSY**

Histopathologic examination of antral mucosa biopsy showing chronic active gastritis with extensive *Cryptosporidium* infiltration.

**DISCUSSION**

Infection due to *Cryptosporidium parvum* can affect the intestinal tract and is usually responsible for abdominal pain and chronic diarrhea with significant weight loss in patients with HIV infection. Cryptosporidiosis may be found anywhere in the intestinal tract including the pancreatic and biliary system. However, variation in the enteric distribution of *Cryptosporidium* in AIDS patients has been observed, with a majority of patients having diffuse small intestinal disease. From 1985 to 1997 only 16 cases of gastric cryptosporidiosis in HIV infected patients have been reported in the English language literature.

In this case presentation the diagnosis of *Cryptosporidiosis* was achieved by endoscopy and biopsy of the gastric mucosa. Stool analysis failed to demonstrate *C.parvum*, despite the patient’s profuse diarrhea. In review of the literature on gastric Cryptosporidiosis, Ventura et al. reported that in 14 out of 16 patients the diagnosis was made based on biopsy of the gastric mucosa, rather than by examination of the stool. Greenberg et al. compared the sensitivity of stool analysis and endoscopic biopsies of the GI tract in the diagnosis of cryptosporidiosis. They found *C.parvum* in 52% of individual stool samples proving that stool analysis was not highly sensitive.

In conclusion, gastric involvement of Cryptosporidiosis is rare but takes place. It has been suggested that gastric mucosa is colonized in a retrograde manner from the small bowel to the stomach, where the parasite may develop in favorable conditions, such as hypochlorhydria. Hypochlorhydria is present in more then one third of the patients with AIDS.

Clinical presentation of Cryptosporidiosis is variable and is not related to a specific symptomatology, as patients with large number of parasites in the stomach may be asymptomatic.

The lack of a pathognomonic clinical picture and endoscopic appearance related to gastric Cryptosporidiosis suggests that upper endoscopy with biopsy should be the investigation of choice for the diagnostic evaluation of immunocompromised patients with diarrhea. Treatment for such opportunistic infection is reconstitution of the immune system with highly active antiretroviral therapy. This case responded to Alinia but long-term outcome was lost to follow up.

**BIBLIOGRAPHY**