



RETROPERITONEAL PERFORATION OF INTESTINAL AMOEBIASIS: A RARE CASE PRESENTATION

General Surgery

Dr P Venkateswar Professor in General Surgery, Osmania General Hospital, Hyderabad, T.S.

Dr Vipin Kumar Pandey* Post Graduate Resident in General Surgery, Osmania General Hospital, Hyderabad, T.S..
*Corresponding Author

Dr Rohit Suri Post Graduate Resident in General Surgery, Osmania General Hospital, Hyderabad, T.S.

ABSTRACT

Amoebiasis is caused by *Entamoeba Histolytica* and is still a major healthcare concern, especially in the Indian subcontinent where almost half the population is infected. The lack of sanitary control and hygiene measures make parasites infections still a burden for patients and physicians. Despite infections due to this parasites are usually mild, severe infections and fatal outcomes although rare still occur. Bowel Perforation is a rare complication of amoebiasis, and unfortunately, it continues to be almost fatal. We present a unique case of a 48 yr old man who presented to the emergency room with an acute abdomen. A 48-year-old man presented to Emergency room with complaints of pain in right lower abdomen and with abdominal distension, vomiting, fever and diarrhea. Ultrasonography suggestive of no free fluid in abdomen and pelvis. Computed tomography suggestive of mottled air pockets with fluid in retroperitoneal space. Patient underwent Extraperitoneal drainage of retroperitoneal collection with bilateral flank drain in extraperitoneal space. Bowel perforation due to *Entamoeba histolytica* was the final diagnosis.

KEYWORDS

Intestinal Amoebiasis, Retroperitoneal Perforation, Extraperitoneal Drainage.

INTRODUCTION:

Amoebiasis is the second leading cause of death from parasitic disease worldwide [1] and due to its great behavioral spectrum, this disease may appear as slight diarrhea up to fulminating events of the colon and liver. Amoebiasis is caused by *Entamoeba histolytica*. Transmission occurs predominantly by a lack of sanitary-hygienic conditions [1, 2] through food or water contaminated with the cyst. In the small bowel, the cysts hatch, and a large number of trophozoites are released and carried to the colon where flask-shaped ulcers form in the submucosa. The trophozoites multiply, ultimately forming cysts, which enter the portal circulation or are passed in the faeces as an infective form that infects other humans as a result of insanitary conditions. Having entered the portal circulation, the trophozoites are filtered and trapped in the interlobular veins of the liver. They multiply in the portal triads, causing focal infarction of hepatocytes and liquefactive necrosis as a result of proteolytic enzymes produced by the trophozoites. The areas of necrosis eventually coalesce to form the abscess cavity. The abscess cavity contains chocolate-coloured, odourless, 'anchovy sauce'-like fluid that is a mixture of necrotic liver tissue and blood. Untreated abscesses are likely to rupture. Chronic infection of the large bowel may result in a granulomatous lesion along the large bowel, most commonly seen in the caecum, called an amoeboma.

Bowel perforation is a rare complication of colonic amoebiasis and is associated with a high mortality despite specific treatment [1, 3]. Prompt surgical intervention seems to be the best treatment for this unusual complication [1, 4]. We present a case of a 48 year-old male who presented to the emergency room with signs and symptoms of acute abdomen. Intestinal amoebiasis is usually asymptomatic, and the possible reason for diagnosis in this patient was due to features suggestive of acute abdomen. After a prompt evaluation, a retroperitoneal perforation of ascending colon due to intestinal amoebiasis was encountered. Retroperitoneal perforation of ascending colon due to *Entamoeba histolytica* was the final diagnosis.

Case Presentation

A 48-year-old man labourer by occupation presented to acute surgical care with the chief complaints of pain in the right lower abdomen since 3 days insidious in onset, gradually progressive from mild to severe in intensity. The pain was initially in the right lower abdomen area progressed to diffuse type of pain. Associated with diffuse abdominal distension since 2 days, non-bilious, non-projectile vomiting and with history of fever and diarrhea since 7 days. No history of weight loss/ loss of appetite/ jaundice/ itching/trauma/ urinary complaints. No history of similar complaints in past.k/c/o hypertension since 10 yrs and is on regular medication No history of DM/CAD/TB/ASTHMA/ EPILEPSY.

On inspection Abdomen is distended and on palpation tenderness in right iliac fossa with no guarding and rigidity. On auscultation bowel sound were sluggish. Per rectal examination: findings were normal

Clinical Course -

BLOOD TESTS	Hb – 11.5 gm% WBC – 12700/mm3(neutrophils shift to left, Neutrophilic Leucocytosis) PLC - 3.01X 106/mm3 Creatinine – 0.6 mg/dl RBS - 110mg/dl Na+/K+- 140/3.4 mEq/l
USG ABDOMEN AND PELVIS	Liver Normal size and echotexture No IHBD Diffuse mesenteric fat stranding Bowel Loops normal calibre with sluggish peristalsis No evidence of free fluid in abdomen and Pelvis
CT CHEST AND ABDOMEN	Liver normal size and echotexture Mottled air pockets with fluid in retroperitoneal space more on the right side extending towards umbilicus anteriorly and towards IVC and right iliac vessels inferiorly Retroperitoneal fat stranding noted in bilateral iliac fossa small air pockets noted in right gluteal region Appendix measuring 6mm with no fat stranding No free fluid in abdomen and pelvis CT CHEST: Normal
DIRECT MICROSCOPY(extraperitoneal fluid)	Plenty of TETRANUCLEATE CYSTS OF ENTAMOEBA HISTOLYTICA, WITH RBCS, AND PUS CELLS



Fig 1. Showing clinical picture of patient presenting with abdominal distention with bilateral flank fullness

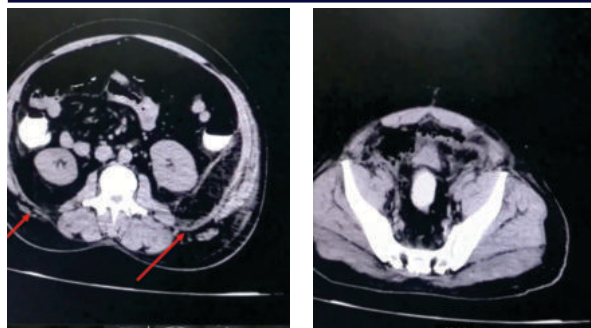


Fig 2/3. CT Showing Mottled air and fluid collection in retroperitoneal space with Extension into pelvis below, and umbilicus anteriorly



Fig 4/5. Bilateral oblique incision was given along lateral aspect of groin with extraperitoneal drainage of retroperitoneal collection with bilateral flank drain in Extraperitoneal space without entering the Peritoneal cavity. Around 600ml(400 ml from right and 200ml from left) of pus with faeculent smell was drained.



Fig 6: Microscopic examination of retroperitoneal fluid showed plenty of Tetranucleate cysts of entamoeba histolytica



Fig 7: The patient did well post operatively, and was discharged, and was called after 6 weeks for Diagnostic Laparoscopy, appendix was found to be inflamed and appendectomy was done rest of the findings were normal.

DISCUSSION -

Entamoeba is a protozoan parasite and is the second most common parasitic cause of death in the world [1]. Infections are more common in developing countries, mostly due to poor sanitary conditions [4]. Entamoeba exists as two genetically distant species *Entamoeba dispar*, a non-pathogen species, and *E. histolytica* a true pathogen [4, 5]. *Entamoeba histolytica* comprise two forms; an invasive motile stage (trophozoites) and an infective non-motile cyst resistant to gastric secretions [5, 6]. Infection usually begins with the ingestion of

cysts from contaminated food or water. But it can occur due to poor oral and anal hygiene, oral sex and promiscuity [5]. Our patient had limited access to clean water, as her house did not have any kind of sewerage, which probably contributed to her infection.

Once ingested, the cyst hatch in the small bowel and releases the trophozoites into the colon [6]. These organisms can live in the colon and feed on mucosal cells and colonic bacteria [1]. In some cases, the parasite invades the bowel wall and create an inflammatory reaction that can be mild, or at times be indistinguishable from an ulcerative colitis with necrosis of the submucosa and muscularis of the colon [7]. These changes are believed to occur from the invasion of the segmental arteries with consequent thrombotic occlusion and necrosis [5, 7]. When a perforation happens, it usually appears in the cecum and ascending colon, yet, any part of the colon can be affected. Fortunately, when the perforation is small the omentum usually seals them, nonetheless, free perforation can still occur [1, 2]. Occasionally, the trophozoites enter the portal circulation and might travel to the liver and brain creating abscess or can travel to the perineum, skin, and genitalia forming ulcers [5]. Due to this great variability, *E. histolytica* have a broad behavioral spectrum from asymptomatic carriers patients to severely ill patients with fulminant colitis with peritonitis, tachycardia, hypotension, perforation and death [1, 2]. When symptoms do occur, infected patients usually develop fever, weight loss, diarrhea, dehydration and anorexia [8]. These symptoms can persist for months to years with asymptomatic intervals before the patients seek any medical attention [1, 4]. Diagnosis is based usually on the presence of a cyst or trophozoites in the stool [1, 9], however, plain radiographs, endoscopy, ultrasound and CT can be helpful especially when complications arise [6, 7]. Intestinal perforation due to *E. histolytica* is rare and happens in only 1.9–9.1% of the cases [4]. Perforation usually happens in children, as adults develop other complications as colitis, hemorrhage and even granuloma [4, 5]. Pregnancy, immunodeficiency, steroid use, diabetes and alcohol abuse are risk factors for perforation [5, 10]. The management of amebic perforation of bowel is a challenging issue because when detected the prognosis becomes grim with a mortality as high as 75% [4]. Early surgical treatment is the treatment of choice for perforations [6]. When faced with extensive involvement, multiple perforations and gross contamination, total or subtotal colectomy with ileostomy and mucous fistula or Hartmann procedure must be performed [5]. In our patient, Retroperitoneal perforation of ascending colon with retroperitoneal collection was which was managed with extraperitoneal drainage.

Profound knowledge of amebic pathology along with an adequate use of antibiotics, complementary tests and surgical procedures are of vital importance for all surgeons. Also, basic sanitary control and good hygiene habits will diminish mortality rates and complications.

CONCLUSION -

This case is being presented because of its rarity. Most common sites of occurrence of Amoebiasis are git(caecum and ascending colon), liver being the most common extraintestinal site. Moreover, Intestinal amoebiasis are usually mild, severe infections and fatal outcomes although rare still occur. Bowel Perforation is a rare complication of amoebiasis, and unfortunately, it continues to be almost fatal. Surgery is treatment of choice in patient with bowel perforation. Medical treatment is recommended in patients with mild disease. perioperative metronidazole therapy in patients can dramatically improve their survival rates. Tablet metronidazole 800 mg tid or injection metronidazole 500 mg IV tid for 10-14 days (40 mg/kg/day). Tinidazole 600 mg BD dose for 5 days. Metronidazole is not given in 1st trimester or pregnancy. Luminal amoebicides: Duodohydroxyquin, diloxanide furoate, and paromomycin. *Tissue amoebicides*: Emetine and dehydroemetine, which act in the liver, intestinal wall. Emetine and dehydroemetine because of their cardiotoxicity are currently not used.

Patient underwent Extraperitoneal drainage of retroperitoneal collection with bilateral flank drain in extraperitoneal space. Patient was started on Injection metronidazole 40 mg/kg/day in divided dose daily for 14 days and with luminal amoebicides. On follow up after 6 weeks, diagnostic laparoscopy was performed which showed inflamed appendix and appendectomy was done with rest normal findings, ct was performed which showed no evidence of retroperitoneal collection.

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