



COLONIC PERFORATION WITH RUPTURED LIVER ABSCESS AND INFERIOR VENA CAVA THROMBOSIS DUE TO AMOEBIASIS: A RARE CASE REPORT

Dechen Peden Gyaltzen*

Junior Resident, Surgery Department Pt. B. D. Sharma P.G.I.M.S. Rohtak.1240011*Corresponding Author

Dr Amit Jangra

Junior Resident, Surgery Department Pt. B. D. Sharma P.G.I.M.S. Rohtak.1240012

Dr. Pratham Batra

Senior Resident, Surgery Department, Pt. B. D. Sharma P.G.I.M.S. Rohtak.1240013

ABSTRACT Amoebiasis is caused by the parasite *Entamoeba histolytica*. The disease is endemic in tropical and resource poor countries owing to lack of sanitation and poor hygiene. The disease spectrum ranges from asymptomatic carrier state to amoebic liver abscess to fulminant amoebic colitis. Amoebic liver abscess is the most common extraintestinal manifestation seen in 10%. Fulminant amoebic colitis leading to perforation is rare and fatal complication seen in 1.9 to 9%. Early diagnosis and surgery is key to survival. In our case, the patient had ruptured amoebic liver abscess along with colon perforation and IVC thrombus, this combination is rarely seen. Our patient underwent right hemicolectomy and end ileostomy. Unfortunately, the patient expired due to sepsis and multiorgan failure. **ABBREVIATIONS** CECT-Contrast Enhanced Computed Tomography IVC- Inferior Vena Cava

KEYWORDS : *Entamoeba histolytica*, Colonic perforation, Amoebic liver abscess, Inferior vena cava thrombosis.

INTRODUCTION

Amoebiasis is a protozoal disease caused by *Entamoeba histolytica*. It is endemic in tropical and resource poor countries owing to the lack of sanitation and proper hygiene.^{1,2} It is estimated to kill around 75,000 per year worldwide.³ Vast majority of the cases are asymptomatic, with only about 10 to 20% manifesting the disease.⁴ The most common extraintestinal manifestation is the amoebic liver abscess.⁵ Peritoneal rupture of the liver abscess has been reported in around 6-9% cases. Bowel perforation is an extremely rare complication with poor prognosis.⁴

CASE REPORT

A 28 year old male came with the complaints of periumbilical pain since 15 days, associated with fever and loose stools. The patient was a chronic alcoholic and smoker. The patient was a diagnosed case of alcoholic liver disease with amoebic liver abscess and was undergoing treatment from medicine department. On suspicion of rupture of the liver abscess, the patient was transferred to surgery department.

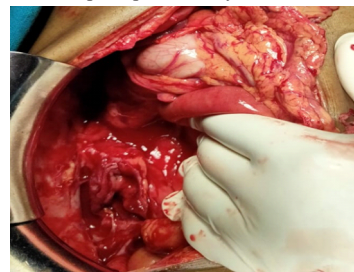
On examination patient looked sick and had icterus. He was tachycardic with a pulse rate of 112/min. Bilateral crepitations were present in the chest on auscultation. The abdomen was distended with tenderness and guarding which were generalised. Laboratory investigations revealed marked leucocytosis of 30,000 cells/cubic millimetre. His serum sodium and potassium were 131 mEq/l and 3.7 mEq/l respectively. Total serum bilirubin was 2.51 mg/dl, direct and indirect serum bilirubin were 1.90 and 0.61 mg/dl respectively. SGOT and SGPT were 85.6 and 27.4 U/L respectively. His serum albumin level was 2 gm/dl. Rest of the biochemical investigations were within the normal physiological range.

Ultrasound abdomen showed free fluid 1+ in the pelvic, morrison and paracolic space along with an IVC thrombus. A hypoechoic collection of 8×9 cm was noted in the right lobe of liver and the possibility of ruptured liver abscess could not be ruled out. So CECT of the chest and abdomen was done which showed a subcapsular rupture of liver abscess with supra hepatic IVC thrombosis.

Patient was resuscitated and taken for emergency laparotomy. Intraoperatively, around 1.5 litre of feco-purulent fluid was present in the peritoneal cavity. A 2×2.5 cm perforation was present in the caecum, along with a 1×1 cm perforation in the ascending colon. The whole small and large intestine was oedematous and inflamed. Collateral bleed was present due to IVC thrombus. The liver surface was adherent to the parities. The omentum was adhered to the right iliac fossa.

Right hemicolectomy was performed and sent for histopathology. The proximal bowel was exteriorised as an end ileostomy with closure of the distal end.

Postoperatively, the patient was started on anticoagulants and broad-spectrum antibiotics and was shifted to the Intensive care unit. Unfortunately, the patient succumbed to sepsis and multiorgan failure and expired on the 4th postoperative day.



INTRAOPERATIVE PICTURE SHOWING CECAL PERFORATION

DISCUSSION

Entamoeba histolytica infection is a common health problem worldwide. Infection can lead to a wide spectrum of diseases, ranging from asymptomatic carries, fulminating amoebic colitis to the life-threatening complication of colonic perforation.⁶

The disease is transmitted by feco-oral route when water contaminated with cysts of the parasite are ingested. The cysts then travel up to the large intestine where trophozoites are formed which can invade the bowel wall. It results in the formation of flask like ulcers which are initially confined to the mucosal epithelium and lamina propria. Eventually, these ulcers may penetrate the muscularis propria resulting in the dreaded complication of perforation.⁴

Perforation can occur in any part of the colon although the caecum and the ascending colon are usually involved. The risk factors for perforation include the male gender, advanced age, assigns of peritonitis, electrolyte imbalances and hypoalbuminemia.⁶

Once the trophozoite disseminate into the liver, patient develops amoebic liver abscess.⁵ The complications of amoebic liver abscess include rupture into the pleura, pericardial or peritoneal cavity, vascular thrombosis and rupture into the bile ducts. Postulated mechanism of IVC thrombus include the thrombotic state induced by the inflammatory process associated with amoebiasis or external mechanical compression by the hepatic abscess.⁷

Diagnosis is made by demonstration of a space occupying lesion in the liver along with a positive serology for amoebiasis.⁸ Computed tomography is the investigation of choice for ALA with sensitivity as high as 97%.⁹ RT-PCR is the gold standard test in the differential detection of *Entamoeba* species.¹⁰

Anticoagulation therapy may be needed in cases with associated IVC thrombus.⁷

Fulminant amoebic colitis has a high mortality ranging from 55% to 87.5%. Intestinal perforation due to *Entamoeba histolytica* is rare seen in only 1.9 to 9% cases.¹ Ozdogon et al reported a 50% mortality rate.³ A high level of clinical suspicion is required for diagnosis and early surgical intervention improves mortality. If a patient with preoperative diagnosis of amoebic liver abscess has persistent abdominal pain with acute abdomen, the possibility of amoebic colonic perforation should be kept in mind.²

According to previous studies, there is no role of conservative management in acute fulminant amoebic colitis. Resection of the perforated segment with exteriorization of the proximal bowel is the treatment of choice due to higher risk of anastomotic leaks in tissues contaminated with *Entamoeba*. Resection anastomosis can be carried out after 3 to 6 months once the bowel inflammation has subsided and the patency of the distal bowel has been confirmed.²

CONCLUSION

Fulminant amoebic colitis is a rare and fatal complication of amoebiasis. It primarily affects the cecum and colon. The treatment of choice for amoebic perforation is resection of the perforated segment of bowel with exteriorization of the proximal segment. The combination of amoebic liver abscess with colonic perforation has a high mortality rate and surgery is the treatment of choice in such patients. Possibility of amoebic perforation of bowel should be kept in mind in a patient with amoebic liver abscess with persistent abdominal pain and acute abdomen.

FUNDING

None

CONFLICT OF INTEREST

The authors declare that there is no conflict of interests in this study.

References

- Guzmán I LJ, Molina GA, Cevallos JM, Galvej PF, Moyon FX, Moyon FA et al. Colonic perforation due to amoebiasis, a rare and lethal complication. *J Surj Case Rep.* 2018;(11):297.
- Jain BK, Garg PK, Kumar A, Mishra K, Mohanty D, Agrawal V. Colonic perforation with peritonitis in amoebiasis: A tropical disease with high mortality. *Trop Gastroenterol.* 2013;34(2):83–6.
- Ozdogan M, Baykal A, Aran O. Amoebic Perforation of the colon: Rare and Frequently Fatal Complication. *World J Surj.* 2004;28:926-9.
- Prajapati DK, Rampal K, Prajapati JM. A Rare Case of Caecal Perforation with Ruptured Amoebic Liver Abscess. *Ann. Int. Med. Den. Res.* 2016;2(4):6-8.
- Shirley DT, Farr L, Watanabe K, Moonah S. A Review of the Global Burden, New Diagnostics, and Current Therapeutics for Amoebiasis. *Open Forum Infect Dis.* 2018;5(7):161.
- Zaman M, Chowdhary K, Kaur G, Shah A. Amoebic Colonic Perforation Presenting as Peritonitis in Emergency, Incidence and Outcome: Our Experience. *Maedica (Buchar).* 2018;13(1):51-4.
- Ray S, Kharana D, Saha M, Talukdar A. Amoebic Liver abscess Complicated by Inferior Vena Cava Thrombosis: A Case Report. *Med J Malaysia.* 2012.67(5):524-5.
- Sarda AK, Mittal R, Basra BK, Mishra A, Talwar N. Three cases of amoebic liver abscess causing inferior vena cava obstruction, with a review of the literature. *Korean J Hepatol.* 2011;17(1):71-5.
- Prendki V, Stirnemann J, Pham I, Poignard P, Houze S, Sellier N, et al. Amoebic Liver Abscess, Extensive Thrombosis, and Patent Cardiac Foramen Ovale. *J Travel Med.* 2011;18(6):427-9.
- Wang H, Kanthan R. Multiple colonic and ileal perforations due to unsuspected intestinal amoebiasis—Case report and review. *Pathol Res Pract.* 2020;216(1):152608.