

Synchronous liver abscess with gangrenous caecum: A case series

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Abstract

Liver abscess is commonly seen but liver abscess with caecal gangrene or perforation is a very rare condition. The peritonitis due to caecal perforation when associated with liver abscess is commonly misdiagnosed as ruptured liver abscess and during surgical intervention is often overlooked which comes out to be detrimental. Entamoeba histolytica commonly invades the mucosa of caecum which causes flask shaped ulcers leading to fulminant typhilitis to caecal perforation. Here we describe six cases of concomitant liver abscess with cecal gangrene. Caecal perforation with liver abscess is rare but fatal condition which requires high degree of suspicion for diagnosis as the early intervention is prerequisite for better outcome.

Keywords:- Liver abscess, Caecal gangrene, Perforation, Entamoeba histolytica.

INTRODUCTION

Liver abscess is a well-known clinical condition that almost all the clinicians often face during their clinical practice. Isolated abscess in the liver is commonly found without any other obvious source of infection. Patients having liver abscess concomitant with gangrenous caecum or caecal perforation and showing clinical features of peritonitis are commonly misdiagnosed as ruptured liver abscess¹. The cases of liver abscess which presented in our institution underwent Contrast Enhanced CT whole abdomen and were confirmed with findings of liver abscess. Among these cases, while undergoing exploratory laparotomy, some patients were also found to be having either gangrenous or perforated caecum simultaneously. Rupture of colon with liver abscess is infrequent and is more commonly associated with amoebic liver abscess as compared to pyogenic liver abscess^{2,3}. Liver abscess with gangrenous or perforated caecum has very high mortality and morbidity rate as compared to isolated liver abscess especially in malnourished patients.

CASE SERIES

Case 1

A 49 years old male presented in the emergency department with complaints of fever and pain abdomen. On examination, patient was found to be having pyrexia, tachycardia, signs of dehydration, abdominal tenderness along with guarding and rigidity. His blood pressure recorded was 98/56 mm Hg, pulse rate 120/min and temperature 101.6 °F. On catheterisation, urine was dark in colour.

On ultrasound examination, a hypoechoic area of 58X56X66 mm of volume 106cc was seen in left lobe of liver. Blood investigations showed TLC count of 13400/ μ l, rest all were within normal limits. Patient was resuscitated with iv fluids along with paracetamol infusion and i.v. antibiotics and was taken for emergency laparotomy suspecting ruptured liver abscess as findings suggesting peritonitis were present.

During exploratory laparotomy, an abscess cavity of approx 7X5X3 cms was found in left lobe of liver with stomach wall adherent to it and almost 500 ml of pyoperitoneum was drained. The omentum was found adhered to the caecum, which when removed showed the the caecum to be gangrenous and sloughed out. After the resection of caecum, the distal end was closed and proximal end ileostomy was done. The patient was discharged on post op day 10 uneventfully.

Case 2

A 32 years old male with complaints of pain right hypochondrium and fever came to the emergency department and was admitted in the department of Medicine with provisional diagnosis of liver abscess. On examination, patient had pyrexia, tachycardia, BP 110/76 mm Hg, pulse rate 96/min and temperature 100.2 °F.

On ultrasound examination, multiple hypoechoic lesions were seen in right lobe of liver. On blood investigations, TLC count was 10400/ μ l, rest all investigations were within normal range. The patient was managed conservatively in the department of medicine . After 2 days of conservative treatment, patient started complaining of pain abdomen and sensation of abdominal fullness and pressure. Surgical reference was done. On examination, there was guarding and rigidity with abdominal distension, on percussion , flank dullness and fluid wave was present. On CECT abdomen, intra peritoneal fluid collection and intraperitoneal gas were present along with multiple small liver abscesses in right lobe of liver. Patient was taken to emergency exploratory laparotomy for perforation peritonitis. During exploratory laparotomy, 2 litres of pyoperitoneum was drained. Omentum was found adhered to the caecum, which was when removed ,there was burst of ceacum of around 5 cm with gangrenous margins

present. Resection of caecum with proximal end ileostomy was done. Distal end was closed. No obvious big abscess cavity could be located in liver during laparotomy as CT scan also showed multiple but small liver abscesses. It was planned to manage patient further conservatively. Patient improved after surgery except surgical site infection was present and the wound was laid open. Patient was discharged after 22 postoperative days with secondary suturing at surgical site.

Case 3

A 42 year old male patient came to the emergency department with complaints of pain abdomen and abdominal distension. On examination patient appeared dehydrated, was afebrile, with pulse rate of 120/min and BP 96/54 mmHg. On per abdomen examination, signs of peritonitis, guarding and rigidity were present, with abdomen distended. On X-ray, FPA and chest gas under diaphragm was seen. Patient was diagnosed as perforation peritonitis and was resuscitated with IV fluids. On blood investigations, TLC was 28600/ μ l, SGOT 155 IU/L, SGPT 77.7 IU/L, Na^+ 135 mmol/l and K^+ 4.14 mmol. On USG, liver was mildly enlarged.

After resuscitation, patient was planned for emergency exploratory laparotomy. During exploration, around 500 ml pyoperitonium was drained. There was ruptured pus cavity of around 9X11cm present in right lobe of liver, on further exploration for gas under diaphragm.

There was an ulcer of around 1.5 cm and two gangrenous patches of around 1 cm each in caecum which were impending to perforate. Right hemicolectomy was done followed by Ileo-transverse end to side anastomosis and proximal loop ileostomy was done. Patient did well after operation and was discharged on post op day 16.

Case 4

A 57 years old male came to the surgery OPD complaining of pain in right hypochondrium. On examination, patient was having abdominal tenderness in right hypochondrium. BP was 136/86 mm Hg, pulse rate 74/min and afebrile.

On ultrasound examination, a hypoechoic area of 66X56X62mm was seen in right lobe of liver suggestive of liver abscess. All blood investigations were within normal range. On CECT whole abdomen, a 11x8cm cavity with peripheral rim enhancement was seen in segment 7 and 6 of liver, suggestive of abscess.

Patient was planned for laparoscopic liver abscess drainage. During laparoscopy, an abscess cavity was found in right lower lobe of liver which was punctured and sucked out by suction. While draining the abscess cavity, it was found that omentum was adherent with the caecum. On removing the omentum, a 1.5X1.0 cm gangrenous patch was seen in the caecum, impending to perforate. Caecostomy was done from the incision given in right iliac fossa, after which a drain was placed in pus cavity in liver and another drain in pelvis. Patient was kept on IV antibiotics including metronidazole for 14 days. After clinical improvement, the caecostomy was closed and re-peritonealised. Patient was kept for another 7 days and discharged on post op 8th day after removing all the drains.

Case 5

A female patient of age 67 years was referred from medicine department for pain abdomen. She was admitted in medicine department with history of fever and during workup, she was diagnosed as liver abscess and was being managed conservatively with iv antibiotics. Then suddenly after 3 days of admission, she developed severe pain in abdomen. All the vitals were in normal range. On examination, guarding and rigidity was present. On CECT whole abdomen, two hypodense lesions with peripheral rim enhancement were present in right lobe of liver, suggestive of liver abscess with one lesion of 13X11 cms and another one of 7X5 cms. There was free fluid seen in peritoneal cavity and it was provisionally diagnosed as ruptured liver abscess. Patient was planned for laparotomy and peritoneal lavage.

On exploration, 500ml of pyoperitonium was drained. One large pus cavity was ruptured and easily localised and was laid open and another cavity was localised with needle aspiration and drained. On further exploration of gut, there was a gangrenous patch of around 5cm on caecum. Right hemicolectomy was done followed by ileo transverse end to side anastomosis. Patient expired on POD 7 in intensive care unit (ICU) due to sepsis and post operative respiratory complications.

Case 6

A young male patient of age 27 with history of pain abdomen since 14 days came to the surgery OPD. On examination, patient was afebrile, PR was 82/min and BP 120/78mmHg. Hepatomegaly was present with mild tenderness in right inguinal and lumbar region. Patient was admitted for further evaluation. On USG, hypoechoic lesion of size 75x70x78mm was seen in right lobe of liver. On CECT scan, hypoechoic lesion with peripheral rim enhancement of size 11x12 cm was present in right lobe in segment 6&7 along with circumferential thickening of caecal wall.

Patient was planned for exploratory laparotomy. During exploration, single large abscess cavity of around 12x13 cm was found in right lobe of liver, impending to perforate. Abscess cavity was drained. The caecum was thickened with many small gangrenous patches present. Limited right hemicolectomy was done followed by ileo-transverse end to side anastomosis and proximal loop ileostomy was created. Amoebic serology was positive on investigation. Metronidazole was given. Patient was discharged on POD 15.

Discussion

Liver abscess is a common condition and most of the times can be managed conservatively with IV antibiotics and USG guided aspiration. Sometimes patient is suspected to have ruptured liver abscess and is operated but during laparotomy, concomitant gangrenous caecum of unknown etiology is found which brings the surgeon in dilemma about what to do next⁴. In our institution, around 150 liver abscess patients were reported in last 2 years and among these, more than 70% were managed non operatively. Among the 30 liver abscess patients who were suspected to have ruptured liver abscess and planned for laparotomy, the caecal perforation was found in 6 patients. The caecal perforation was unexpected before surgery as most of the times, the CECT whole abdomen and USG abdomen are unable to detect such kind of caecal pathology. Sometimes it may happen that a patient presents as acute appendicitis and during surgery, caecal pathology is found, in such cases we should suspect and look for secondary liver abscess⁵.

The trophozoites of *Entamoeba histolytica* present in the lumen of intestine invade the mucosa especially in caecum and rectosigmoid region where the flow of luminal content is slow. It can cause amoebic typhilitis to gangrenous caecum followed by perforation^{6,7,8}.

Conclusion

For all the patients having clinical features of peritonitis and the investigations showing liver abscess, the radiologist should look for any caecal pathology and during laparotomy do not forget to look for any gut pathology even in cases of ruptured liver abscess with explained peritonitis. The mortality rate is very high in cases of liver abscess with caecal perforation⁹. So a high index of suspicion with prompt workup, adequate resuscitation and surgical management improves outcome in such kind of patients.

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