Hepatopericardial fistula complicating amoebic liver abscess

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Abstract:
Amoebiasis is common infection in tropical countries like India. Amoebic liver abscess rupturing into the pericardium is a rare entity, we would like to present this rare case seen in our department.

Keyword:
Hepatopericardial fistula, Anchovy sauce pus, Amoebiasis, Pericardiectomy

Introduction:
Amoebiasis is a common infection in tropical countries. Liver abscess is the most common manifestation of invasive amoebiasis. The most common complication of liver abscess is rupture (5-15.6%). The most common sites where rupture occurs are pleural cavity, pericardial cavity, lung, bowel, intraperitoneal and skin respectively. Amoebic liver abscess rupturing into the pericardium is a rare complication of invasive amoebiasis. Amoebic pericardial involvement is 3-8 times more frequent in males than females. Amoebic pericardial involvement commonly occurs in the age group of 20-50 years. Our patient presented with cardiac tamponade due to hepatopericardial fistula complicating amoebic liver abscess and was successfully managed by pericardiectomy and antiamebic therapy.

Case report
A case of 48 year old male, non-smoker, chronic alcoholic with no previous significant medical illness presented with fever associated with chills and rigor of 6 weeks duration. He had shortness of breath Class III for 5 days before admission. He had no palpitation, syncope, jaundice, swelling of legs. His sensorium was normal. He consumes alcohol almost daily for the past 25 years. He is heterosexual with no history of drug abuse. On examination he was febrile and tachypnoeic with a respiratory rate of 30 per min. His pulse was 120 bpm and BP was 100/70 mmHg. His general examination did not reveal any other abnormality. Cardiovascular examination revealed elevated jugular venous pressure with muffled heart sounds and no murmur.
Examination of lungs revealed bilateral equal air entry with vesicular breath sounds and no added sounds. Per abdomen he had a tender enlarged left lobe of liver with normal bowel sounds and no free fluid. Central nervous system was normal.

**Investigations:**
1. Total count 40200 cell/cumm. DC P 60, L 35, E 5%. ESR 48 mm/hr. PCV 24% Platelet count 4.92 lakhs/cumm. Random blood sugar 88mg/dl. Blood urea 114 mg/dl. Serum creatinine 5.6 mg/dl. Hemoglobin 8.4gms/dl. Total bilirubin 1.0 mg/dl, direct bilirubin 0.3mg/dl, SGOT 46 U/l, SGPT 36 U/l, serum ALP 48 U/l, total protein 6.2 g/dl, serum albumin 3.5 g/dl. Motion for ova and cyst was negative. Pus culture and sensitivity was negative. ECG showed sinus tachycardia. Echocardiogram revealed moderate pericardial effusion with features of cardiac tamponade. (Fig. 1 & 2) Ultrasonogram abdomen showed liver abscess in left lobe measuring 8 cm x 8.3 cm adjacent to pericardium. (Fig. 3) Chest radiograph revealed mild cardiomegaly with no free fluid in pleural space. Initially unaware of the cause of cardiac tamponade pericardiocentesis was done and anchovy sauce pus of about 30 ml was aspirated. Once anchovy sauce pus was seen, patient was given parenteral Ciprofloxacin and Metronidazole. Subsequent ultrasonogram of liver revealed large abscess probably communicating with pericardial cavity. (Fig. 3) The details were discussed with cardiothoracic surgeon. Under general anesthesia, a pericardiectomy was done with left lateral thoracotomy and right pleural intercostal drainage was connected. Intraoperatively, anchovy sauce pus was seen coming from the liver through the diaphragm. (Fig. 4) About 250 ml of anchovy sauce pus from the pericardial space and liver. There was probe patency between the liver abscess in the left lobe and the pericardium. Echocardiogram during postop period showed minimal residual liver abscess close to pericardium. (Fig. 5) There was no evidence of tamponade or features of constriction and ventricular function was normal. Patient showed dramatic improvement. Fever abated. His renal function and Liver function tests were normal at discharge.

**Discussion:**
Amoebiosis is caused by entamoeba histolytica, a protozoan found worldwide. Amoebiosis causes intestinal and extra intestinal disease. Amoebiosis mainly affects the travellers, homosexuals, immunosuppressed or institutionalised individuals without any predilection for age and sex. Amoebiasis is transmitted by infective cyst form through feco oral route. Excystation occurs in the terminal ileum or colon resulting in invasive form namely trophozoites. The trophozoites invade the colonic mucosa and cause flask shaped ulcers and dysentery. In addition the trophozoites spread hematogenously to liver and various organs. Amoebic liver abscess is the most common invasive manifestation (1). Differentiation of amebic and pyogenic liver abscess is mainly by analysis of pus and by blood investigations. Pyogenic liver abscess is usually associated with jaundice and leucocytosis. Pleurulmonary, cardiac, cerebral, renal, genitourinary, cutaneous involvement are rare(2,3).

Management of invasive amebiasis and its complications should be aggressive and prompt. Hepatopericardial fistula
complicating amebic liver abscess carries high mortality.(4) Mortality is mainly due to sepsis, shock, respiratory insufficiency and tamponade (2) and rarely pulmonary embolus (5). Management of hepatopericardial fistula is pericardiectomy, drainage of liver abscess and antiamebic therapy. Usually percutaneous catheter drainage of pericardium prior to pericardiectomy stabilises the patient hemodynamically and improves final outcome. Our patient was stabilised by initial percutaneous pericardial drainage and underwent pericardiectomy and drainage of liver abscess. Rarely drainage of amebic liver abscess alone may bring out excellent outcome in hepatopericardial fistula if the fistulous tract is large. (6) Hepatopericardial fistula may also be a complication of thermal injury following radiofrequency ablation of liver metastasis.

**Conclusion**
Amebiasis is a common protozoan infection. Amebic liver abscess is the most common manifestation of invasive amebiasis. Hepatopericardial fistula complicating amebic liver abscess is rare. Prompt diagnosis and management is crucial for uneventful outcome.

**References**


Fig. 4 Intraoperative picture showing anchovy sauce pus from pericardium

Fig. 5 Post-echo-cardiogram showing residual liver abscess close to pericardium