

Amoebic Liver Abscess and treatment difficulties

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Abstract

Most common form of extra intestinal amoebiasis is amoebic liver abscess. Ultrasonogram (USG) is the investigation of choice for diagnosis and for performing therapeutic procedures of liver abscess. It is treated medically with or without surgical intervention. A 5 year old child came with fever and right hypochondrial (RHC) pain. He was found to have amoebic liver abscess which was diagnosed with USG and liver aspirate for microscopy. He needed Pigtail Catheter Drainage (PCD) and chloroquine as he failed to respond to metronidazole therapy and Percutaneous Needle Aspiration done twice (PNA).

Introduction

Amoebiasis is largely a disease of tropical and developing countries and a leading cause of diarrhoeal disease worldwide where up to 10% of the population is infected of which the majority remain as asymptomatic carriers or cyst passers. (1) In contrast, in the developed countries pyogenic abscess is more common. Fortunately only 10% of infected cases develop the clinical syndrome of amoebic manifestation. Out of this, only 3-9% cases develop amoebic liver abscess (ALA). (1) They are commonly presenting with right hypochondrial pain, fever and anorexia. The best way to confirm the diagnosis of amoebic liver abscess is with serology testing. Indirect hemagglutination and gel diffusion precipitation are the most commonly used tests with 85–95% sensitivity and specificity detecting antibodies to *E. histolytica*. (2) The cysts of the protozoan are found in the stool in about 1/4th of the patients. (2) Use the amoebicidal drugs is the first line treatment of amoebic liver abscess. Metronidazole is the drug of choice. The size of the abscess is an important factor in determining the response to medical treatment. Surgical drainage is clearly

indicated only in those who fail to respond to conservative methods and those with complicated abscesses.

Case report


A 5 year old child came with anorexia, RHC abdominal pain and fever with chills and rigor for 9 days. There was a history of frequent ingestion of hoppers which was made by palmyrah toddy. He had tender hepatomegaly without jaundice. There was neutrophil leukocytosis, high CRP (268mgL⁻¹), low albumin and marginally elevated liver enzymes and PT/INR. Stool AOC was normal on first aspirate. First USS suggestive of liver abscess on segment

| | a | | b | | c | |
|------------|----------|----------|----------|----------|----------|----------|
| Date | 22/10/18 | 25/10/18 | 29/10/18 | 09/11/18 | 14/12/18 | 22/01/19 |
| Size in cm | 2.9×4.0 | 3.0×4.9 | 5.6×6.0 | 4.4×4.8 | 2.3×2.9 | 2.3×2.7 |

a-1st PNA, b- 2nd PNA, c- 1st PCD

Initially treated with IV metronidazole and IV cefotaxime empirically. Because of persistent fever and increment of abscess size even after 4 days of IV antibiotics, PNA was done.

1st aspirate had 60ml of blood stained pus, direct smear was positive for pus cells and negative for AOC. (Figure:1) Culture was positive for *E-coli*(ESBL) which was sensitive to amikacin and imipenam. 2nd PNA was done on 11th day of admission as he had persistent RHC abdominal pain increasing size of abscess cavity which contained 125ml. Because of persistent abscess cavity even after 2 PNA and poor clinical improvement, PCD was done on day 22 (30ml). Drained fluid was sent for AOC which was positive for *E.histolytica* trophozoites with ingested RBCs. IV metronidazole was given for 14 days which is followed by oral metronidazole and oral chloroquine for 14days. IV Imipenem was given for 14 days. Protein rich diet was given. Other investigations are aspirate for gene Xpert MTB was negative and Ig assay was normal.

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Figure : 1 Aspirate of liver abscess

Discussion

Our child was treated for amoebic liver abscess with secondary bacterial infection with E-coli. Secondary bacterial infection may complicate 10-20% of amoebic liver abscesses.(2) Solitary liver abscesses (70% of cases) in the right lobe of the liver (75% of cases) are more common than multiple abscesses or solitary left lobe abscesses.(1) Abscess fluid microscopy for AOC is <25% sensitivity and specificity data is not available. Erythrophagocytosis (the presence of ingested RBCs in trophozoites) is classical feature has long been considered the definitive diagnostic criterion for *E. histolytica*.(6) More than 90% of amoebic abscesses respond to medical treatment.

Treatment

Metronidazole is the first line amoebicidal agent(4). Choloquine phosphate for 2 weeks is used for resistant large abscess. Diloxanide Furoate for 7-10 days can be used to eradicate the cysts in the intestine at the end of treatment. (4) USG guided PNA along with drug therapy is indicated when there is features of impending rupture/ compression sign / abscess cavity size $\geq 6\text{cm}$ / multiple abscesses involving both left and right lobe and failure in the improvement/aggravation on conservative treatment even after 72 hours.(5) In our child because of last reason, PNA was done. PCD along with drug therapy is indicated where there is failed USG-guided PNA and features of secondary infection.(5) PCD was done as he had persistent recollection of abscess cavity even after two times PNA. There is no significant advantage of PCD over needle aspiration in terms of duration of hospital stay and time needed for total or near total resolution of abscess cavity.(3) A decision to remove the pigtail catheter was made when the

total drainage from the catheter decreased to less than 10 mL/24 h for two consecutive days.(3) He was followed up weekly for a month, monthly for three months and at the end of six months, for clinical evaluation and USG assessment of abscess cavity until complete resolution.

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