Case Report

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Ruptured Liver Abscess in Children: A Rare Case Presentation

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Abstract

Liver abscess is a common condition in tropical countries and is associated with significant morbidity and mortality. Traditionally, there are two major classifications of hepatic abscess; pyogenic and amoebic. There are various complications associated with hepatic abscesses, of which, rupture of the abscess is the most common. Intraperitoneal rupture of liver abscess is a rare but potentially fatal disease.

Accurate preoperative diagnosis is difficult and often necessitates exploratory laparotomy for peritonitis. Improving imaging techniques have aided the CLInicians in the diagnosis of hepatic abscesses and have subsequently become important treatment tools, the demographics of the hepatic abscess have changed. Though open surgery still remains most commonly used management modality, with advent of minimally invasive surgery. Thus, multiple management options are available today and ruptured liver abscess is a preventable and manageable. No specific guidelines are available for choosing the modality of treatment. Thus, this article purpose is to report a case of a patient that presented with acute abdomen at the emergency caused by a rupture liver abscess. A 7 year old male child presented to the Emergency Department due to severe abdominal pain during the last 7 days. The pain was located in the RHC, associated with constipation and three to four episodes of vomiting. On physical examination, generalized abdominal tenderness was present without any guarding or rigidity and no abdominal lump palpable. There were no signs of peritonitis. Blood tests including complete blood count, serum electrolytes, bilirubin, and liver and kidney function tests were performed which were unremarkable and showed no other abnormalities. Prothrombin time, partial thromboplastin time and INR (International Normalized Ratio) were normal. In our case in diagnostic laparoscopy after initial abdomen exploration around 200cc purulent fluid filled peritoneal cavity noted and ruptured liver abscess diagnosis confirmed so diagnostic laparoscopy converted to exploratory laparotomy. Peritoneal lavage given with approx 1500cc warm saline.and metronidazole wash is also given.after clearing all toxic fluid and. All abdominal organs examined and layer wise closing done.

The total operative time was 120 minutes and our patient's post-operative period was unevetful. He was discharged on the seven post-operative day.

Keyword: Ruptured liver abscess; Pediatrics age group; Pediatrics Surgery; Payogenic liver abscess.

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INTRODUCTION

Liver abscess is a common condition in tropical countries and is associated with significant morbidity and mortality. Traditionally, there are two major classifications of hepatic abscess; pyogenic and amoebic. There are various

complications associated with hepatic abscesses, of which, rupture of the abscess is the most common. Intraperitoneal rupture of liver abscess is a rare but potentially fatal disease.

Accurate pre-operative diagnosis is difficult and often necessitates exploratory laparotomy for peritonitis. Improving imaging techniques have aided the clinicians in the diagnosis of hepatic abscesses and have subsequently become important treatment tools, the demographics of the hepatic abscess have changed. Though open surgery still remains most commonly used management modality, with advent of minimally invasive surgery. Thus, multiple management options are available today and ruptured liver abscess is a preventable and manageable. No specific guidelines are available for choosing the modality of treatment. Thus, this article purpose is to report a case of a patient that presented with acute abdomen at the emergency caused by a rupture liver abscess.

CASE REPORT

- A 7 year old male child presented to the Emergency Department due to severe abdominal pain during the last 7 days. The pain was located in the RHC, associated with constipation and three to four episodes of vomiting. On physical examination, generalized abdominal tenderness was present without any guarding or rigidity and no abdominal lump palpable. There were no signs of peritonitis. Blood tests including complete bloodcount, serum electrolytes, bilirubin, and liver and kidney function tests were performed which were unremarkable and showed no other abnormalities. Prothrombin time, partial thromboplastin time and INR (International Normalized Ratio) were normal.
- During the investigation, abdominal ultrasound showed 6.5 *6.0*6.4 cm3 (132 cc) sized hypoechoic lesion with internal echoes with internal vascular noted in right lobe of liver Reaching up to subcapsular surface, likely partially liquified liver abscess,with moderate free fluidin abdomen with thick moving internal echoes, possibility of ruptured liver abscess.
- Laparoscopic approach was attempted which was later converted to open surgical approach through midline incision, approx. 200ml purulent fluid found in peritoneal cavity fluid was drained out and sent for further analysis. 2* 2*4 cm3 cavity was found in right lobe of liver segment no 5 & 7. 1500 ml peritoneal lavage with warm normal saline given. The total operative time was 120 minutes and the patient was discharged home seven days after the procedure without intercurrences.



Fig. 1: Laproscopic View of Peritoneal Fluid



Fig. 2: Laproscopic View of Liver Cavity



Fig. 3: Liver Abscess Cavity

DISCUSSION

Liver abscess can be defined as a suppurative encapsulated collection in the hepatic parenchyma that may be bacterial, parasitic or fungal. Late diagnosis is often associated with the occurrence of complications. Rupture is the most common complication associated with high morbidity and mortality. Several factors of rupture have been described in the literature. Their knowledge can lead to propose the best treatment to avoid complication. The risk factors of rupture can guide the therapeutic choice between medical treatment alone and medical treatment associated with percutaneous drainage. Thus, it is important to know the factors that should prompt early drainage. Drainage allows also to speed up the recovery process and reduces the patient's hospital stay.

In our case in diagnostic laparoscopy after initial abdomen exploration around 200cc purulent fluid filled peritoneal cavity noted and ruptured liver abscess diagnosis confirmed so diagnostic laparoscopy converted to exploratory laparotomy. Peritoneal lavage given with approx 1500cc warm saline and metronidazole wash is also given. after clearing all toxic fluid and. All abdominal organs examined and layer wise closing done.

The total operative time was 120 minutes and our patient's post-operative period was unevetful. He was discharged on the seven post-operative day.

CONCLUSIONS

Liver abscess in children is still very common in developing countries; Pyogenic liver abscess (PLA) is more common than amebic, fungal, or other etiologies. Imaging with ultrasonography and/or CT is diagnostic. Antimicrobial therapy along with percutaneous drainage constitutes the mainstay of treatment, whereas open surgical drainage should be reserved for selected cases like ruptured liver abscess.

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