Indian Internet Journal of Forensic Medicine & Toxicology
ISSN 0973-1970, Vol.5, No.4 (2007) *Brief Communication*

Fatal Pyogenic Liver abscess in Children: A Case report

Behera C[1], Rautji R[2], Singh S[3], Dogra TD[4], [1]Pool Officer, [3]Sr Demonstrator, [4]Professor and Head, Department of Forensic Medicine and Toxicology, AIIMS, New Delhi, [2]Reader Department of Forensic Medicine, Armed Forces Medical College, Pune, Maharashtra.

Abstract

A 3-year child was admitted to a private hospital with distended abdomen, decreased appetite, irritability and history of fever. He was promptly diagnosed as case of pyogenic liver abscess. Relevant treatment was instituted. Despite all efforts by the doctors the patient died. His relatives alleged medical negligence on the part of the treating physician, for which the medico-legal autopsy was conducted. In autopsy the cause of death was found to be septicemic shock as result of pyogenic liver abscess and its complications.

Key words: Liver Abscess, Septicemia, Pyogenic, Children.

Case report

A three-year-old child was brought by relatives to a private hospital on 24/07/07 with a history of mild to moderate fever, decreased appetite and irritability for the past 15 days. The parents noticed pallor and abdominal distension 3 to 4 days prior to admission. On clinical examination, in the hospital, the child's temperature was found to be normal. Heart rate was increased and marked pallor was present. On abdominal palpation, liver was enlarged and palpable 08 cm below right costal margin. Laboratory data showed mild leukocytosis, and anemia (Blood Hb- 5.6gm %). Platelet count was 1.85 lac Blood chemistry showed Na^+-134meq/L, K^+-3.6meq/L,creatinine-0.8mg/dL, SGOT-1163 IU/L, SGPT-600 IU/L, GGT-144 IU/L, ALKP-726 IU/L. Other parameters were PT-22.8s, APTT-48.9s, Albumin-2.3g/dL, A: G-1.6:1, and Total protein-6.4g/dL. Test for malaria and typhoid showed negative results. Ultrasound of abdomen revealed presence of abscess in the right lobe of the liver. There is a history of Pica for last one year. The patient was treated with antibiotics, I.V fluids, packed cell transfusion and fresh frozen plasma. Despite all efforts by the treating physician child died after one and half days of admission.

Autopsy findings

Body was that of a 3-yrs-old child with rigor mortis present all over the body. Faint Post mortem staining was present on back and dependant part of the body in supine position except on pressure points. No signs of decomposition were present. Multiple injection marks were present on the

For correspondence
Dr. C Behra, Pool officer
Department of Forensic Medicine, AIIMS, New Delhi - 110029

forearms of both hands**.** Body was pale. On internal examination lungs were heavy with exudation of pus squeezing. Pus was present in medulla of both kidneys. About 650 ml of purulent material was present in the peritoneal cavity. Abscess of size 12cm x 6cm x 9cm was present in upper posterior part of the right lobe of liver with oozing of pus spontaneously. Liver was enlarged (Fig 1&2). Microbiological examination of purulent material from the liver was positive for Klebsilla, Proteus, and E.Coli. Cause of death was septicemic shock as result of pyogenic liver abscess and its complications.

Discussion

Liver abscess is defined as a localized collection of purulent material in liver with associated destruction of hepatic parenchyma and stroma[1]. It may be pyogenic, amoebic or fungal in origin. The amoebic liver abscess is the most common type caused by a protozoa Entamoeba histolytica. Fungal liver abscess is often caused by Candida albicans and is usually associated with immunocompromised conditions. Nearly half of the pyogenic liver abscess is polymicrobial, caused most commonly by E Coli. Pyogenic liver abscesses although rare, are potentially fatal if drainage and appropriate antimicrobial therapy are not instituted early in the course of the disease. Hence early diagnosis and treatment are essential for patient survival.

Ruiz- Hernandez JJ et al[2] studied the factors related to mortality in pyogenic liver abscess. Factors associated with mortality were age, previous history of coronary heart disease, absence of fever, development of sepsis and/or septic shock, raised bilirubin levels, and a biliary, or cryptogenetic in origin, infection due to E. coli or Candida and development of pneumonia. Mortality rate in pyogenic liver abscess was 19% in their study. The main risk factor for mortality was the development of sepsis and/or septic shock.

According to another study by Lee KT et al.[3], despite continuous improvement in image modalities, availability of potent antibiotics and advancement in the knowledge and treatment of pyogenic liver abscess, mortality remains high. On univariate analysis, large abscess, diabetes mellitus and sepsis were significantly associated with hospital mortality. On multivariate logistic regression analysis, the presence of sepsis was found to be an independent risk factor.

In a study by Pineiro-Carrero VM et al.[4] among 109 patients, the overall mortality was of 15%. The improved survival may be related to more prompt diagnosis of pyogenic liver abscess followed by evacuation of the liver abscess and suitable antibiotic therapy.

In our case the child was brought to the hospital in terminal stage. However diagnosis was promptly established by physical and radiological examination and laboratory investigations. The large size of the abscess, multiple microbial infections, spontaneous ruptures into the peritoneal cavity with associated septicemia; were risk factors for high mortality. Despite all efforts by the treating physicians, child could not be saved.

References

1. Roy FC, Hall GS, Keys TF, Procop GW. Microbiology of liver abscesses and the predictive value of abscess gram stain and associated blood cultures. Diagnostic Micro Infect Dis 2003; 46: 245–248.

2. Ruiz- Hernandez JJ, Leon Mazorra M, Conde Martel A, Marchena Gomez, Hemmersbach-Miller M, Betancor- Leon P, Pyogenic liver abscess: mortality related factors. Eur J Gastroenterol Hepatol, 2007; 19: 853-8.
3. Lee KT, Wong SR, Sheen PC, Pyogenic liver abscess: an audit of 10 years' experience and analysis of risk factors. J Dig Surg. 2001; 18: 459-65; discussion 465-6.
4. Pineiro-Carrero VM, Andres JM, Morbidity and mortality of children with pyogenic liver abscess. Am J Dis Child, 1989; 143 : 1424-7.

Fig.1

Fig.2