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A case report: Liver abscess in 3 year child with no pre-existing medical illness.

Medical Science

KEYWORDS :

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ABSTRACT

Although much is known about the pyogenic liver abscess, the gold standard of investigations and treatment is still debatable in developing countries in the paediatric population.Liver abscess in the paediatric age group is uncommon in developing countries, except in cases of septicemia, children with major debilitating diseases, granulocyte dysfunction, or immunosuppression. We report the case of a 3-year-old child from India, with no medical history, with abdominal pain in the right upper quadrant& pyrexia, tachycardia & tachypnoea. Ultrasound and CT scan showed a large,hypo dense, non-enhanced area in segment V& VII. Final diagnosis was pyogenic liver abscess based on negative serology, recent liver lesion, blood culture was negative. A percutaneous aspiration under anaesthesia was performed after 3 days of intra venous antibiotic treatment.Cultures of pus isolated E. Coli. She was started on oral antibiotics according to culture.Ultrasound showed a gradual decrease in size of cavity & complete resolution 9 months later. Even if liver abscess is uncommon in developing countries, the diagnosis must be raised in cases of isolated SOL in liver with fever. Management modality should be chosen depending on the abscess location and first day's progression between intra venous antibiotics, percutaneous aspiration, and exploratory surgery.

INTRODUCTION:

A 3-year-old female child with no previous medical history and normal developmental milestones, presented with fever since 10 days &abdominal pain in the right upper quadrant since 8 days. General examination showed marked tachycardia (HR 136/min)& tachypnoea (RR 33/min). Abdominal examination revealed localized tenderness in right hypochondrium.Serology showed marked leucocytosis (total WBC count 25380/ mm3), ESR 35 mm. Ultrasound showed a large,hypo dense, non-enhanced area in segment V& VI. Based on short duration of symptoms, hypo dense liver mass &elevated WBC count Final diagnosis was pyogenic liver abscess. Intravenous fluids, electrolytes and antibiotics were given and she was monitored under intensive care setup till normalization of vital data. Follow up ultrasound 7 days later showed increase in size of cavity and liquefaction.A percutaneous aspiration under anaesthesia was performed which was uneventful. Within 48 hrs of aspiration her WBC count returned to normal. Cultures of pus showed E. Coli infection. She was started on oral antibiotics according to culture. Ultrasound showed a gradual decrease in size of cavity & complete resolution 6 months later.

CASE REPORT:

We present a case of a 3 yrs female child, with complaint of Fever since 10 days; sudden onset, intermittent, high grade, with chills & rigors, which was relieved after taking oral medication, no associated features, no evening rise of temperature. Pt also had abdominal pain since 8 days, sudden onset, mild to moderate, shooting ache, in her right upper abdomen and umbilical region non-radiating and had no other associated features. Pt also had decrease in her appetite since a week. These complaints were not relieved after 5 days of oral treatment taken from a general practitioner and she presented to our OPD. There were no any other complaints.

She was a full term normal born child of birth weight 3.2 kg, no post natal admissions in NICU, fully vaccinated, and had no previous hospitalizations for any other complaints. Her family and personal history was without any significant findings.

On general examination she was conscious, agitated, GCS 15, weight 14 kg, developmental & anthropometric milestones were adequate for age. No icterus, cyanosis, pallor, generalize oedema or lymphadenopathy were present. Temp was 102* F, HR 136/ min, RR 30/ min, BP 108/68. Resp. Cardiovascular, CNS examination revealed no abnormalities.On abdominal exam tenderness was present in right hypochondrium on palpation. No other significant abnormalities were present.

She was admitted under paediatric intensive care unit & started on intra venous antibiotics (linezolid, metronidazole), intra venous fluids and electrolyte solutions, anti pyretic, anti emetics, was kept nil by mouth. Blood was sent for complete blood count, renal and liver function tests and serum electrolytes, blood grouping and cross match, coagulation profile, HbsAg and HIV with consent. Chest x-ray, abdominal x-ray and abdominal ultrasound were performed. Serological testing showed Hb 10.9 gm/dl, WBC Count 25380 cells/ mm3, ESR 35 mm & C-reactive protein >19 mg/dl. Renal function, Liver function & Coagulation profile were normal. Blood cultures were normal.Chest and Abdominal radiographs showed no abnormalities. Abdominal ultrasound revealed the presence of a single, homogenous, non-enhancing, hypo dense, and 6x6x5 cm (volume 121 cc), SOL in segment V, VII of liver.

A diagnosis of Pyogenic Liver Abscess was made supported by short term history of symptoms, systemic and local examination findings, leucocytosis, elevated ESR and radiology findings & conservative treatment continued. After 72 hrs of conservative management pyrexia and abdominal pain were relieved & her vital data returned within normal limits.The WBC count continued to remain elevated & was 18500 after 72 hrs.

Follow up ultrasound revealed 9x9x4 cm (volume 216 cc) cavity in segment V, VII of liver with liquefied material within. In view of improved general condition, persistently elevated WBC count & increasing size of cavity she was prepared for percutaneous aspiration under ultrasound guidance. On Aspiration under anaesthesia 200 cc frank yellow pus was aspirated, rest procedure was uneventful. Pus was sent for routine microscopy, aerobic & anaerobic cultures.

The cultures isolated E. Coli organisms and antibiotics were changed according to sensitivity report.She was resumed on liquids after 6 hrs and full diet the next day. Post operative period was uneventful, vital data & laboratory values was normal and WBC count was normalized on 3rd post op day and she was discharged with Oral medication on 7th day. Follow up ultrasounds on 1 week, 6 weeks, 3 months showed gradual decrease in size of cavity & complete resolution was seen after 6 months.

9x9x4 cm Abscess in Liver

DISCUSSION:

Early diagnosis and antibiotic therapy with drainage of the pus collection is the mainstay of therapy for PLA. Paediatric PLAs are difficult to diagnose. The classic symptoms of fever, right upper quadrant tenderness, and jaundice are only present in approximately 10% of patients. Approximately half of the patients have both fever and is right upper quadrant pain. Elevated leucocyte count and mild abnormalities in liver function are observed in more than 40% pts. Drainage of the liver abscess is a core therapy that can detect causative organisms and can shorten the treatment period. Methods of drainage include radiographic guided percutaneous aspiration, open surgical approach, laparoscopic drainage. Percutaneous continuous catheter drainage is also an alternative, and catheters placed are generally left in place until abscess collapse, usually from 24-72 hours to 2-3 weeks. In our case, percutaneous drainage was feasible & proved very effective in cure of the intrahepatic abscess. The sizes of the abscess was smaller on admission. The size of the intrahepatic abscess increased rapidly. With percutaneous drainage and 6 weeks intravenous antibiotic therapy abscess resolved. A third follow-up Ultrasound at 6 months revealed nearly complete resolution of the intrahepatic abscess. The ideal duration of antibiotic therapy in pediatric PLA is variable in different studies. No evidence-based data exist to guide duration. In adults, antibiotic therapy is recommended intravenously for at least 2 weeks and then orally for up to 6 weeks. According to another report in children, when percutaneous continuous drainage is maintained during 2 to 4 weeks, parenteral antibiotic therapy should also be maintained for at least 2 to 4 weeks, followed by oral antibiotics for a total of 4 to 6 weeks. Our patient was a 3 year old girl with PLA and without an underlying disease. Antibiotics and drainage led to resolution of the abscess. Serial radiologic imaging of the abscess cavity and clinical response are helpful in deciding on a duration for antibiotic therapy.

Conclusion:

Although pyogenic liver abscess(PLA) is a rare entity in paediatric age group, gold standards fro investigations and treatment remain debatable.Any child presenting with fever, abdominal pain, and tender hepatomegaly should be subjected to ultrasound scan for early detection of PLA. S aureus is the commonest causative agent in teenage. Enterobacteriaceae contribute significantly during infancy& early childhood. A combination of B-Lactams & Gentamicin or a 3rd gen cephalosporine and Gentamicin is a satisfactory initial coverage. Therapeutic drainage is not must in all cases of PLA in children and mane case reports of resolution with adequate antibiotic treatment are present. Failure of improvement of general condition, failure of WBC counts to normalize, increase in size of abscess cavity or persistence of abscess as indicated by radiological findings should prompt consideration of surgical interventions. Percutaneous needle aspiration under radiological guidance has proven itself safe and effective method for draining PLA. Resolution and significant reduction in mortality can been made possible by early decision for aspiration.

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