Study Of Acute Acalculous Cholecystitis In Enteric Fever

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Abstract :

Introduction: Acute acalculous cholecystitis is a complication of enteric fever with abdominal symptoms. Acute acalculous cholecystitis is seen in 5-10% of all cases of acute cholecystitis. Although acute cholecystitis is rare in adults, we found a 10% incidence of acute acalculous cholecystitis in the pediatric age group. **Material and Methods :** We conducted a study of acute acalculous cholecystitis as a complication in enteric fever cases. We studied 20 cases (male-13,female-7) out of 200 enteric fever cases from July 2015 to June 2018. **Results :** 200 cases of Enteric fever were included in the study. Out of the 200 cases, 20 patients had acalculous cholecystitis on ultrasonography as a complication of enteric fever. **Discussion :** Acute acalculous cholecystitis is an acute inflammation of the gall bladder without stones. It was once considered a rare complication of enteric fever and was rarely diagnosed preoperatively before the advent of ultrasound. Recent studies using ultrasound have shown that the complication is not so a rare. **Conclusion:** Acute acalculous cholecystitis is not rare complication of enteric fever in pediatric age group, although it is rare in adults. A long course of wide spectrum antibiotics with close clinical monitoring gives a good prognosis.

Introduction : Enteric fever is still an important health problem in developing countries like India with an estimated incidence of 540 cases/100000 population.[1] Proper sanitation has successfully diminished infection with Salmonella typhi, both sporadic cases and outbreaks of enteric fever occur in developed countries over the years.[2,3]

Acute acalculous cholecystitis is an acute inflammation of the gall bladder without stones. It was once considered a rare complication of typhoid fever and was rarely diagnosed preoperatively before the advent of ultrasound. Recent studies using ultrasound have, however, shown that the complication is not so rare. Typhoid fever is relatively more common and severe disease in children and carries significant morbidity and mortality.[3]

The common symptoms are high grade fever more than 10 days, nausea, vomiting, abdominal pain, loose motion, malaise. The ultrasonic criteria of acute acalculous cholecystitis including thickening of gall bladder wall >3.5mm, sonographic Murphys sign, a round shape, peri-cholic collection and absence of gall stones.[4]

Before the advent of ultrasound, typhoid fever was considered to be complicated by cholecystitis in 2.8% patients; 1.7% being acalculous. Recent reports on typhoid fever have not shown symptomatic cases of acute cholecystitis.[5]

The management of acalculous cholecystitis is mainly conservative and includes intravenous fluids, appropriate antibiotics and close clinical monitoring.

Material and Methods : We conducted the study of acute acalculous cholecystitis as a complication in enteric fever cases. We studied 20 cases (male-13, female-7) out of 200 enteric fever cases from July 2015 to June 2018.

Following criteria's were taken into consideration

1. Age group 4-14 yrs.
2. Fever more than 10 days, abdominal complaints
3. USG Abdomen showing Gall bladder thickness>3.5mm
4. Widal test positive (titers>1:160)

Exclusive Criteria : Children's under steroid therapy, malnutrition, under treatment for malignancy were excluded.

Symptoms and signs of all the patients were recorded after taking through proper history and complete physical examination.

Blood investigations included the Widal test, Blood culture

and liver function test. Ultrasonography was done in all the cases included in the study. The sonography was done by experienced Paediatric Radiologist.

Results : 200 cases of Enteric fever were included in the study. Out of the 200 cases, 20 patients had acalculous cholecystitis on ultrasonography as a complication of enteric fever.

Symptoms	No. of cases
Fever	20
Vomiting	16
Abdominal pain right upper quadrant	14
Abdominal distension	2
Drowsiness	2
Loose motion	11

Signs	No. of cases
Hepatomegaly	12
Splenomegaly	5
Palpable Gall bladder	0
Ascites	2
Jaundice	4

Out of the total patients included in study, all 20 patients had fever as a symptom. Vomitting was seen in total 16 of patients. Complaint of pain in abdomen in the right hypochondrium was observed in 14 out of 20 patients.

Abdominal distension was present in 2 patients.2 patients were drowsy on admission. Increased frequency of stool was seen in 11 patients. On per abdomen examination, 12 had significant hepatomegaly, 5 had splenomegaly of grade 2 or more. None of the patients had palpable gall bladder. Ascites was detected in 2 of the cases. Jaundice was seen in 4 patients out of 20.

Investigations	No. of cases
Widal test ('o'titre>11:160)	20
Blood culture positive	8
SGOT(>45IU/L)	12
SGPT(>49IU/L)	12
Alkaline phosphate>300u/l	11
USG abdomen	20
Sonographic Murphys sign	16
Gall bladder thickness>3.5mm	20
Ascites	2
Biliary sludge	5

All the 20 cases were Widal positive with titre of more than 1:160. Blood culture positive for salmonella typhi was encountered in 8 patients. SGOT was elevated more than normal in 12 cases. Similarly SGPT was above normal levels in 12 cases. ALP was over 300 international levels in 20 cases.

Ultrasonography was done in all cases. Sonographic Murphy's sign was seen in 16 out of 20 cases. The thickness of gall bladder was more than 3.5 mm in all the 20 cases. Ascites on sonography was present in 2 cases. Biliary sludge was seen in 5 cases.

We managed these cases with Intravenous (IV) fluid, IV antibiotics- Ceftriaxone, Amikacin for 14 days. All patients recovered well. None of these required surgical management.

Discussion : Acute acalculous cholecystitis is an acute inflammation of the gall bladder without stones. It was once considered a rare complication of enteric fever and was rarely diagnosed preoperatively before the advent of ultrasound. Recent studies using ultrasound have shown that the complication is not so rare.[6]

The precise mechanism for cholecystitis is unknown, several factors like ischemia, infection and bile changes are involved. Acute acalculous cholecystitis may also

cause by bacteria, virus an increase in the number of Salmonella typhi isolates has been observed even in developed countries.[7,8] Most of the complications are intra-abdominal due to blood or lymphatic spread of the bacteria.[9]

Acute acalculous cholecystitis is infrequent and can occur even weeks after diarrhea, the diagnosis is based on clinical symptoms and ultrasound provides the diagnosis.[10]

Perforation of the Gall bladder is a serious end result of acute typhoid cholecystitis. Infrequently acalculous cholecystitis may be associated with suppuration, ischemia or septic complications.[11,12]

The management of acalculous cholecystitis is mainly conservative and IV Fluids, IV antibiotics and close clinical monitoring.[13]

Conclusion : Acute acalculous cholecystitis is not a rare complication of enteric fever in pediatric age group, although it is rare in adults. A long course of wide spectrum antibiotics with close clinical monitoring gives good a prognosis.

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