

Enteric Cholecystitis 15 Years Experience

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Acute acalculous cholecystitis (AAC) is a relatively rare entity in children. The commonest cause in the pediatric age group is enteric cholecystitis(1) although it has also been reported in association with scarlet fever, burns, surgery and abdominal trauma(2,3).

The recent increase in multi-drug resistant *Salmonella typhi* (MDRST) has rejuvenated interest in AAC and many authors have reported an increased incidence of cholecystitis associated with MDRST(4). At our institution also there has been a higher incidence of MDRST during the recent past (10% in 1987 to 93% in 1992). However, we have not encountered a concomitant increase in the incidence of AAC. Over a period of 15 years, 11 cases of cholecystitis were admitted, of which only 1 was associated with MDRST. In this communication, we report our experience of enteric cholecystitis spread over a period of 15 years.

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Material and Methods

A retrospective analysis over the period 1979-1993 of children admitted with enteric cholecystitis in the pediatric ward was done. Age, sex, presenting features and organomegaly were noted. Information was also collected about results of widal test, blood culture and ultrasonography of the abdomen.

Results

Over 15 years, 603 cases of typhoid were admitted in Pediatric Ward, out of which 11 (1.8%) had cholecystitis. All the 11 children were males and belonged to the age group 5-11 years. The presenting features were fever, jaundice and other abdominal symptoms in the form of diarrhea and vomiting. Hepatomegaly of varying degree was present in all cases, spleen could be palpated in only 2 children. Five (45.4%) patients had a palpable gall bladder on admission. One child had typical features of acute abdomen (abdominal distention, tenderness and absent bowel sounds) and required emergency surgery. Widal titres of 1:160 or more were obtained in all cases but blood culture grew *Salm. typhi* in 4 (36.3%) only. Gall bladder scrapings of the patient requiring emergency surgery also grew *S. typhi*. The details of these have been shown in *Table I*.

Ultrasound examination was done in 10 cases. Gall bladder enlargement of more than 5 cm, wall thickness more than 2 mm, sonographic Murphy's sign and paracolic collections were used as the diagnostic criteria(5). Management for all the cases except one was conservative and consisted of rest to the bowel, ampicillin, probenecid and sup-

TABLE I—Summary of Findings

Parameters	n	(%)
* Symptoms (Fever, jaundice, abdominal symptoms)	11	(100.0)
* Gall bladder palpable	5	(45.4)
* Liver		
<2 cm	4	(36.3)
2-5 cm	3	(27.2)
>5 cm	4	(36.3)
* Spleen	2	(18.1)
* Operative treatment	1	(9.0)
* Widal positive	11	(100.0)
* Blood culture	4	(36.3)
* Gall bladder culture	1	(9.0)

portive care. All the patients responded well to this regime and were asymptomatic at follow up ranging from 2-6 years. Repeat ultrasound examination was also normal at follow ups.

Discussion

Acalculous cholecystitis implies cholecystitis without stones. This acute inflammation of gall bladder without stones is seen in 2-17% of all gall bladders removed from acute cholecystitis(8,6,11). Almost 50% cases of cholecystitis in pediatric age group have been reported to be acalculous(2,3) and the commonest cause in this age group is typhoid. Recent reports have shown an increased incidence of cholecystitis in association with enteric fever(4). However, we have not witnessed any such increase (1.8%).

The commonest presentation of cholecystitis in our series was fever and

jaundice. Palpable gall bladder was not a consistent feature and was seen in only half the cases. However, abdominal symptoms were present in all. Thus, a high index of suspicion is required to pick cases early, more so when dealing with a child with enteric fever. Ultrasound has a high diagnostic precision(11,12) and recourse to cholecystogram or other procedures is rarely required.

While there are no definite accepted upper limits of normal in gall bladder size and shape, a spherical gall bladder of at least 5 cm in transverse diameter is considered pathologic(5). In a normally distended state, gall bladder wall thickening is diagnosed when the wall measures more than 2 mm. Wall thickening by itself is nonspecific, as causes other than gall bladder inflammation and cholecystitis give the same findings(6,7). These include hepatitis, hypoproteinemia, cirrhosis or alcoholic liver disease and congestive heart failure.

Conventionally, cholecystectomy is recommended for patients who had cholecystitis(11). However, our experience suggests that conservative treatment is sufficient for cholecystitis associated with enteric fever. Similar results have been reported by others also(2,13). Antibiotics should be given for a sufficient duration (4-6 weeks) to prevent recurrence as well as spread of infection to the community.

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Pseudohypoaldosteronism in a Family with Variable Presentation

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Pseudohypoaldosteronism is a condition of infancy characterized by salt wasting and failure to thrive(1). Renal

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salt loss with elevation of plasma aldosterone and renin is thought to reflect an unresponsiveness of renal tubules to mineralocorticoid hormones(2). A family with three children of pseudo-hypoaldosteronism is presented.

Case Report

The index patient was a male infant born to Saudi parents by non-consanguineous marriage. He was asymptomatic, but investigations were done due to positive family history of salt wasting and concern of parents to rule out an endocrine disease. Investigations revealed the following: serum