



## Case Report

### Acute Acalculous Cholecystitis in Enteric fever: A Case Report

Venkatachalapathy T S<sup>\*1</sup>, Nagendra Babu T<sup>2</sup>, Sreeramulu P N<sup>3</sup>

<sup>1\*&2</sup>Assistant Professor, <sup>3</sup>Professor, Department of Surgery,

Sri Devaraj Urs Medical College & RL jalappa Hospital and Research centre.

Tamaka, Kolar, Karnataka, India-563101.

#### ABSTRACT:

Acute acalculous cholecystitis is a very rare complication of typhoid fever, and may be due to multi-drug resistant and virulent forms of Salmonella infection. It is particularly rare in adults. A 27-year-old woman, presenting with fever, vomiting, diarrhea and abdominal pain, was found to have acute acalculous cholecystitis due to typhoid fever on basis of ultrasonographical findings and a positive Widal test for Salmonella typhi. She was treated with Cholecystectomy and made a full recovery.

**KEY WORDS:** Acute acalculous cholecystitis, Typhoid fever, Ultrasonography.

#### INTRODUCTION:

Acute acalculous cholecystitis is an acute inflammation of the gall bladder in the absence of gallstones. Acute Acalculous Cholecystitis accounts for 5% to 10% of all cases of acute cholecystitis. Very rarely it is seen as a complication of typhoid fever. The occurrence of multi-drug resistant and more virulent forms of Salmonella infection may explain the emergence of this rare complication of typhoid fever. Although acute acalculous cholecystitis complicating typhoid fever has been reported in

the pediatric population, its occurrence is extremely rare in adults. We therefore present this complication of typhoid fever, which occurred in a young woman and she underwent cholecystectomy due to persistent pain abdomen, which revealed impending perforation.

#### CASE REPORT:

A 27-year-old woman presented with complaints of, vomiting and diarrhea of two days duration. She was admitted to the hospital and treated symptomatically. Two days later, she developed epigastric and right hypochondriac abdominal pain, abdominal examination revealed mild

abdominal distention with guarding and rigidity in the right upper quadrant. The bowel sounds were exaggerated. The routine blood investigations were within normal limits except Total count – 20,100 cells/mm<sup>3</sup>. The Widal test was positive (Salmonella typhi O and H positive in dilution of 1:160). Ultrasonography (US) of the abdomen showed thickening of the gallbladder wall with distended gall bladder, minimal gall bladder sludge and Murphy's sign was positive (Fig. 1,2). On the basis of the positive Widal test and the above-mentioned US findings, the diagnosis of

Acute Acalculous Cholecystitis complicating typhoid fever was made.(Fig. 1,2) Patient had persistent pain ,hence planned for exploration and on opening the peritoneal cavity there was distended gall bladder with impending perforation noticed. Gall bladder dissected from the Gall bladder bed and cholecystectomy was done, bile and gall bladder specimen were sent for culture and histopathological examination. (Figure-3) Bile yielded no growth and gall bladder showed acute cholecystitis.

Figure-1 Distended gall bladder, With wall edema



Figure-2 Acalculous cholecystitis, well distended gall bladder



Figure-3 Inflamed gall bladder with impending gangrene



#### **DISCUSSION:**

Acute acalculous cholecystitis accounts for 5%-14% of all cases of acute cholecystitis [1, 2].

Patients tend to be predominantly male and older than 50 years of age and in pediatric population [3, 4]. The pathogenesis of acute acalculous

cholecystitis is not well defined as the precise mechanism is unknown to date. It seems that several factors such as ischemia, infection and bile changes are involved. Multiple risk factors such as previous surgery and trauma or burn injury have been associated, but none of them were present in our patient [5, 6]. However, as in our patient, acute acalculous cholecystitis may also occur from secondary infection of the gallbladder following a systemic infection by bacteria, virus, parasites or fungi. Acute acalculous cholecystitis due to primary bacterial infection is rare. Several cases have been reported complicating *Salmonella typhi* infection [3, 6] and after non-typhoid salmonellosis as well. During the past two decades, an increase in the number of *Salmonella typhi* isolates has been observed even in developed countries [7, 8, 9], and there are also rare complications of this common disease described in medical literature [10]. Some of these complications are extra-intestinal such as septic arthritis [11] or meningitis, but most of them are intra-abdominal [12] due to blood or lymphatic spread of the bacteria [13]. Among the latter, acute acalculous cholecystitis is infrequent and can occur even weeks after the diarrhoea, the diagnosis is based on clinical symptoms, and ultrasound provides the definite diagnosis and is cultivated in faeces and bile [14]. The bacterium, like any other intestinal pathogen, can not only reach the gallbladder through blood drainage but also directly from the bowel along the bile ducts, as could have been the case in our patient. Most cases described in literature experienced a bad outcome due to gallbladder gangrene [15, 16], and perforation [15]. Even with early cholecystectomy in good surgical candidates, or cholecystostomy or endoscopy nasobiliary drainage in bad ones, the outcomes were bad [17, 18, 19]. However, this has changed as the disease is now described in less severely ill patients with no adverse prognosis factors [19].

## CONCLUSION:

In conclusion, this case shows that acute acalculous cholecystitis, a rare complication of *Salmonella typhi*, can also be present in non-critically ill patients. In this setting, the prognosis is better, cholecystectomy is not always needed and patients treated with a long course of wide spectrum antibiotics can obtain a good prognosis. Cholecystectomy is advised in cases where patient having persistent pain abdomen and not relieved with medication, as it was done in our case to prevent complications due to perforation.

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\*Corresponding author: Dr .Venkatachalapathy T S

E-mail:[drvenkey@hotmail.com](mailto:drvenkey@hotmail.com)