JOURNAL OF PHARMACEUTICAL AND BIOMEDICAL SCIENCES

Khadda S, Parmar A, Ali A, Yadav AK, Sakhrani JK, Kapoor A. **Gall bladder Perforation: An Unusual Presentation of Enteric Fever.** *J Pharm Biomed Sci* 2015; 05(05): S1-S4.

Journal of Pharmaceutical and Biomedical Sciences (***J Pharm Biomed Sci.***), **Member journal. Committee on Publication ethics (COPE) and Journal donation project (JDP).**

PBMS
Journal of Pharmaceutical and Biomedical Sciences

ISSN NO- 2230 – 7885
CODEN JPBSCT
NLM Title: J Pharm Biomed Sci.

Case report

Gall Bladder Perforation: An Unusual Presentation of Enteric Fever

Sandeep Khadda[1], Ashok Parmar[1], Anwar Ali[1], Ajay Kumar Yadav[1], Jitendra Kumar Sakhrani[1], Akhil Kapoor[2,*]

Affiliation:
[1]Department of Surgery, Sardar Patel Medical College and associated group of Hospitals, Bikaner, Rajasthan, India
[2]Department of Oncology, Acharya Tulsi Regional Treatment & Research Institute, Sardar Patel Medical College and associated group of Hospitals, Bikaner, Rajasthan, India

The name of the department(s) and institution(s) to which the work should be attributed:
1.Department of Surgery, Sardar Patel Medical College and associated group of Hospitals, Bikaner, Rajasthan, India
2.Department of Oncology, Acharya Tulsi Regional Treatment & Research Institute, Sardar Patel Medical College and associated group of Hospitals, Bikaner, Rajasthan, India

Address reprint requests to
Dr. Akhil Kapoor
Room No. 73, PG Boys Hostel
PBM Hospital Campus, Bikaner, Rajasthan, India 334003. Mobile: +91-9950482121; Phone: 0151-2200749; Fax No: 0151-2540141 or at kapoorakhil1987@gmail.com

Article citation:
Khadda S, Parmar A, Ali A, Yadav AK, Sakhrani JK,Kapoor A. Gall bladder perforation: An unusual presentation of enteric fever. *J Pharm Biomed Sci.* 2015; 05(05):S1-S4. Available at www.jpbms.info

ABSTRACT:
Gall bladder perforation is very unusual presentation of enteric fever with high morbidity and mortality if diagnosis is delayed. We report a case of an adolescent who had enteric fever with generalized peritonitis,radiograph of abdomen is not suggestive of bowel perforation. The patient was intra-operatively diagnosed as acalculous gall bladder perforation complicating enteric fever. He was managed with cholecystectomy and appropriate antibiotic coverage. Patient recovered uneventfully. Acalculous gall bladder perforation in enteric fever is a rare surgical complication. Enteric fever is common in developing and poor countries because of poor hygiene and sanitation condition as it spread through faecal-oral route. Investigation like sonography and CT-scan lacks specificity for gall bladder perforation.In our case gall bladder perforation diagnosed intra-operatively and managed with cholecystecomy. In enteric fever with generalized peritonitis diagnosis of gall bladder perforation should be look with high suspicion if bowel perforation is not identified pre-operatively or intra-operatively. Cholecystectomy is procedure of choice to prevent high morbidity/mortality.

KEYWORDS: Gallbladder perforation; enteric fever; adolescent.

INTRODUCTION
Gall bladder perforation in enteric fever is very unusual presentation. It has been common in acute calculous cholecystitis in adults and elderly as compare to enteric fever complicating with gall bladder perforation in an adolescent which is very rare[1,2]. Enteric fever causing surgical complications is a cause of significant morbidity and mortality. Intestinal perforation is the most common surgical complication of enteric fever. Gall bladder perforation in enteric fever is rarely diagnosed preoperatively has posed a difficult challenge due to its high morbidity and mortality[2].We here report a case of enteric fever with acalculous gall bladder gangrene and perforation in an adolescent[3].

PRESENTATION OF CASE
An adolescent of age 14 year presented with fever, pain abdomen with abdominal distension since last 12 days and not passing stool/flatus since 2 days. The patient was earlier admitted at local

PBMS
ournal of Pharmaceutical and Biomedical Sciences
ISSN NO- 2230 – 7885
CODEN JPBSCT
NLM Title: J Pharm Biomed Sci.

hospital for 5 days and then referred to us due to clinical deterioration. At the time of admission patient was febrile, ill looking but well oriented to time, place and person. Three episodes of vomiting after admission to the hospital. On examination, mild pallor was present but no cyanosis/jaundice/lymphadenopathy/pedal oedema. He had tachycardia, tachyponea with normal blood pressure.

Per abdomen examination revealed diffuse abdominal distension, umbilicus central and inverted, no engorged veins, no scar marks, external genitalia and hernial sites were normal. Generalized tenderness and guarding was present, no local rise of temperature, no lump palpable. Liver dullness was not obliterated and raised bowel sounds heard over the abdomen.

Respiratory system examination revealed tachypnoea with air entry bilateral equal in both lung field.

CVS examination was within normal limits. Investigation showed Hemoglobin 7.6gm%, TLC 5600/cmm with neutrophils 72%, platelet count 98000/cmm. Urine examination showed no abnormality. Optimal test for malaria was negative. Widal test was strongly positive for salmonella typhi antigen "O" and "H".

USG abdomen was suggestive of mild hepatosplenomegaly, mild amount of free fluid was seen in the peritoneal cavity/peri-hepatic space/perisplenic space and mesenteric lymphadenopathy, gall bladder was small and contracted with thickened gall bladder wall, no sonographic evidence of gall stones was seen at this stage. Chest radiography was within normal limit.

Figure 1. X-ray flat pad abdomen showed dilated bowel loops with multiple air fluid level, but no evidence of free gas under domes of diaphragm, suggestive of no bowel perforation.

The patient was diagnosed as enteric fever with generalized peritonitis and conservative treatment was started with appropriate antibiotic coverage but as there was no improvement in symptoms decision was taken for exploratory laparotomy.

PBMS
ournal of Pharmaceutical and Biomedical Sciences
ISSN NO- 2230 – 7885
CODEN JPBSCT
NLM Title: J Pharm Biomed Sci.

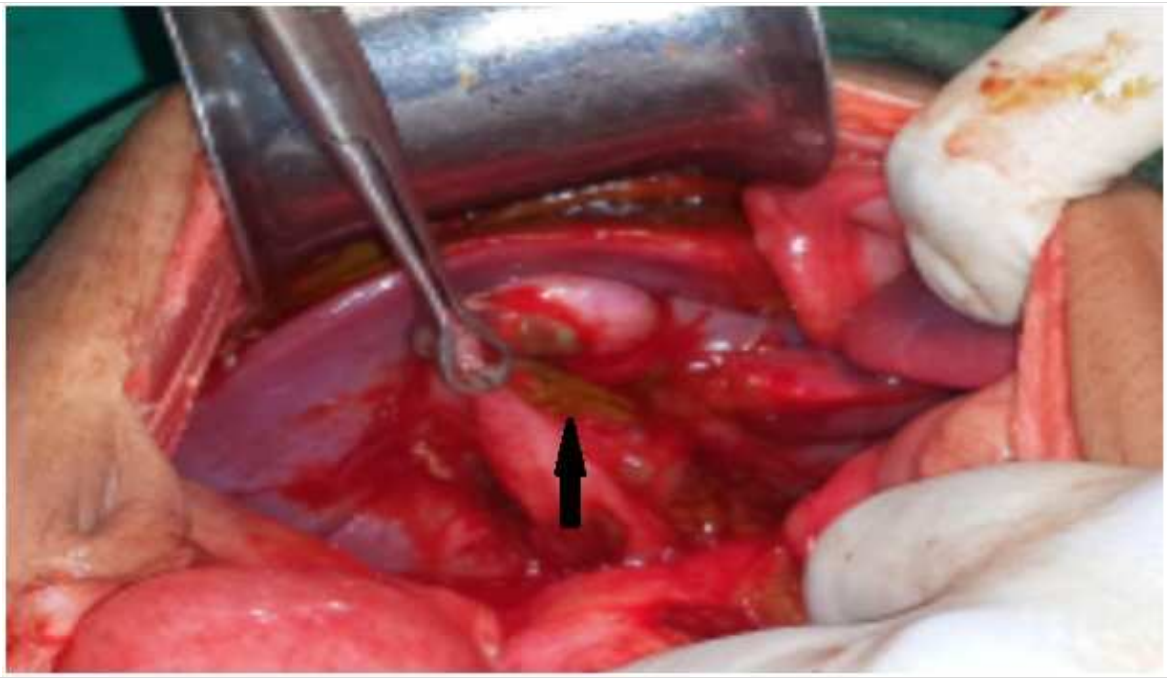

Figure 2. Intraoperative photograph showing multiple gangrenous patches with perforation in the gall bladder (babcock forceps holding the fundus of gall bladder).

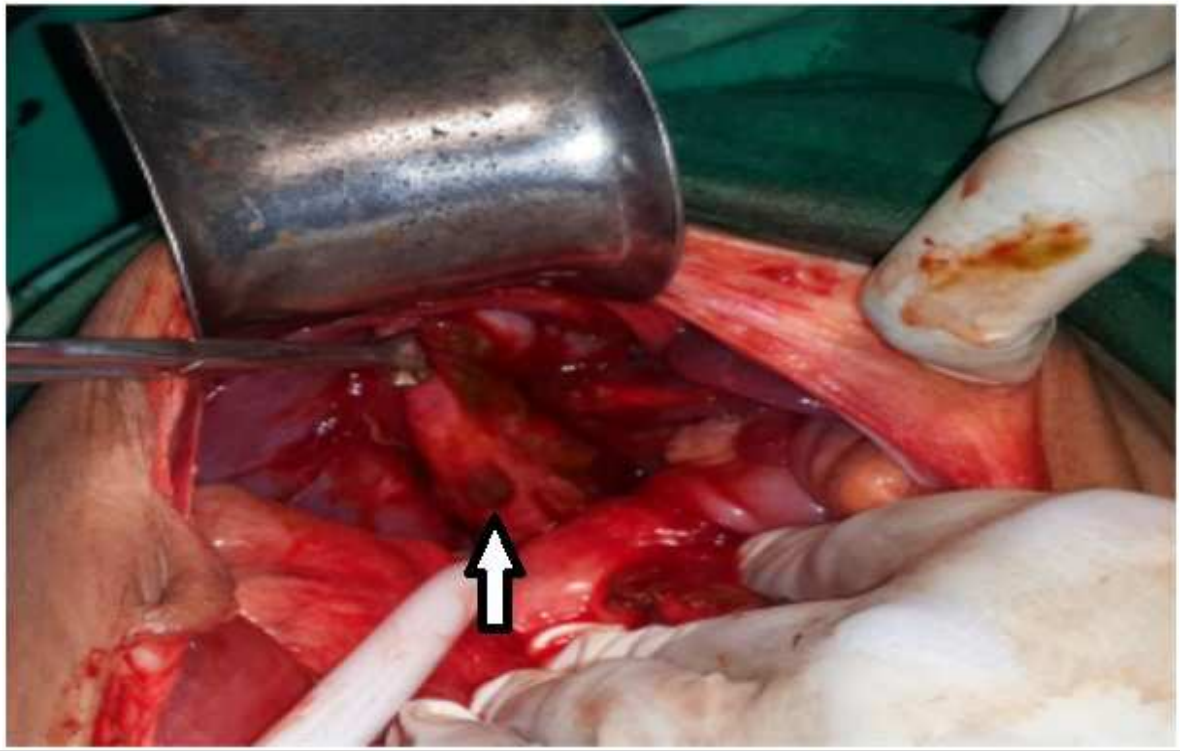

Figure 3. Intraoperative photograph showing gangrenous patch with perforation in the gall bladder (Morrison abdominal retractor used to show the diseased site).

The patient was operated through midline vertical incision. Around 500 ml bilious fluids was present in peritoneal cavity with inflammed and thickened ileum but no bowel perforation found. Then gall bladder was looked for any pathology. Small and shrunken gall bladder identified with multiple

ISSN NO- 2230 – 7885
CODEN JPBSCT
NLM Title: J Pharm Biomed Sci.

gangrenous patches and perforation with leaking bile (Fig. 2 & 3). Cholecystectomy was done and closure done after thorough wash of peritoneal cavity with normal saline. In post-operative period symptoms of patient improved gradually and discharged on postoperative day 8th. Patient was a febrile and orally tolerating with soft and non-tender abdomen, passing stool/flatus normally. Follow-up after 7 days was uneventful. Blood and bile culture reports were positive for *salmonella typhi*. Intravenous ceftriaxone 2 gm was given twice a day for five days.

DISCUSSION

Typhoid fever is mainly caused by *salmonella typhi*. *Salmonella typhi* is the major cause of enteric fever. S. para A and S. para B are relatively infrequent[6]. The term "enteric fever" includes both typhoid and paratyphoid fever. Typhoid fever is transmitted via the faecal-oral route or urine-oral routes. Enteric fever is a systemic infection involving almost all organs of the body, common surgical complications include intestinal perforation, intestinal bleeding, cholecystitis, osteomyelitis and abscesses, pleural effusion[4,5]. Enteric fever causing gall bladder perforation is rare phenomenon and hardly suspected preoperatively as generalized peritonitis is common feature both in ileal perforation and gall bladder perforation. Non-obstructed cholecystitis is unlikely to result in gall bladder perforation as in case of enteric fever[6]. Intense inflammation associated with infection with more virulent organisms and existence of an immunocompromised state leads to thrombosis of the blood vessels which can lead to transmural necrosis and perforation. Investigations like CT-scan and sonography lacks specificity for gall bladder perforation. In comparative study of ultrasonography and CT-scan to detect the site of gall bladder perforation by Kim et al. found 50% success rate with CT-scan but nil on sonography. However, both modalities are equally effective in demonstrating cholelithiasis , pericholecystic fluid collections and thickening of gallbladder wall[7]. In 2001; Sood et al. showed slightly higher rate of detecting of gall bladder perforation on CT scan than with Ultrasonography[8].

Ultrasonography is the first line imaging modality for evaluation of gall bladder perforation as in our case sonography shows thickened gall bladder wall with small and contracted gall bladder without any evidence of gall stones. Our case fell into grade-1 Neimeier category of gall bladder perforation with mortality in this group is very high almost 55% because this type of acute acalculous cholecystitis with gall bladder perforation often associated with acute infection like pneumonia, enteric fever [9]. Our case is unusual because laparotomy was planned with suscpicion of bowel perforation but intra-operatively ileum found inflamed, without any bowel perforation,peritoneal cavity containing 500ml bilious fluid. Gallbladder with multiple gangrenous patches and perforation identified intra-operatively, managed with cholecystectomy and appropriate (ceftriaxone 2 gm/day)antibiotic coverage[10,11].

CONCLUSION

Suscpicion of gall bladder perforation in cases of enteric fever with generalized peritonitis should be kept in mind in which plain radiograph of abdomen does not show free gas under domes of diaphragm. Delay in diagnosis can lead to fatal outcome and surgical procedure must be performed immediately. Emergency laparotomy and cholecystectomy is procedure of choice with appropriate antibiotic coverage[10].

REFERENCES

1.Shukla VK, Khaudelwal C, Kumar M, et al. Enteric Perforation of the gall- bladder. Postgrad Med J. 1983;59:125-126.
2.Kamble AT, Sarda DK, Chaudhary N, et al. Gallbladder Perforation in typhoid fever. J Indian Assoc Pediatr Surg. 2003;8:249-250.
3.Memon AA. Perforated gall bladder: A case report. J Surg Pak 2001;6:374.
4.Chirdan LB, Iya D, Ramyil VM, et al. Acalculus cholecystitis in Nigerian children. Pediatr Surg Int 2003;19:65-67.
5.Saxena V, Basu S, Sharma CLN. Perforation of the gall bladder following typhoid fever-induced ileal perforation. Hong Kong Med J. 2007;13:475- 477.
6.Roslyn JJ, Thompson JE, Darvin H. Risk factors for gallbladder perforation. Am J Gastroenterol 1987;82:636–40.

Statement of Originality of work: The manuscript has been read and approved by all the authors, the requirements for authorship have been met, and that each author believes that the manuscript represents honest and original work.

Source of funding: None

PBMS
Journal of Pharmaceutical and Biomedical Sciences

ISSN NO- 2230 – 7885
CODEN JPBSCT
NLM Title: J Pharm Biomed Sci.

Competing interest / Conflict of interest: The author(s) have no competing interests for financial support, publication of this research, patents and royalties through this collaborative research. All authors were equally involved in discussed research work. There is no financial conflict with the subject matter discussed in the manuscript.

Disclaimer: Any views expressed in this paper are those of the authors and do not reflect the official policy or position of the Department of Defense.