

Evaluation of Clinical Profile and Outcome of Empyema Gallbladder in Anugrah Narayan Magadh Medical College and Hospital, Gaya (Bihar)

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Abstract

Introduction: Empyema gall bladder derived from greek word Empyema meaning suppuration, it is most prevalent worldwide. Presentation of patients varies from mild tenderness in upper abdomen to features of sepsis. Patients having comorbidities especially immunocompromised patients have very few or relatively asymptomatic at the time of presentation, it requires high degree of clinical suspicion and expertise to early detect the disease and act accordingly.

Methods: A Prospective study of total 90 patients of Empyema Gall Bladder were enrolled in Department of General surgery either from OPD or from Emergency, Anmmch gaya from December 2019 to October 2021. Clinical profile and outcome data were recorded and was analysed for evaluation of better management protocol.

Result: In our study we found majority of patients were in age group between 40-50 yrs. Male to Female ratios was 1:1.8. Chief complaint of pain abdomen, epigastric fullness nearly 100%. Laboratory investigations revealed altered Liver function test in almost all patients.

Conclusion: Younger females were most commonly affected than male having maximum incidence in 4th-5th decade. A high index of suspicion is warranted for the diagnosis of empyema GB as presentation are mostly like acute cholecystitis. All acute cholecystitis patients who are immunocompromised or having comorbidity are to be evaluated aggressively in order to reduce morbidity.

Keywords: Gall bladder empyema, Liver function test, Pus culture, Cholecystectomy.

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Introduction

Empyema gall bladder derived from greek word Empyema meaning suppuration [1], it is most prevalent worldwide. Presentation of patients varies from mild tenderness in upper abdomen to features of sepsis. Patients having comorbidities especially immunocompromised patients have very few

or relatively asymptomatic at the time of presentation [2], it requires high degree of clinical suspicion and expertise to early detect the disease and act accordingly. It is usually a severe complication of acute cholecystitis generally due to bile stasis. Acute infection generally characterized by

leucocytosis having infective content of gall bladder and in chronic infection has often sterile content due to antibiotics use.[3-6]. Empyema thoracic is an emergency situation to take care of it by antibiotic and urgent aspiration/ removal of Gall bladder in order to decrease morbidities related to it [7-9]. In our college Anmmch, Gaya we frequent encounter neglected cases of Empyema Gallbladder either in septic shock or dreaded complication like perforation. Our aim of this study was to stratify the patients of gall bladder diseases with high degree of suspicion according to presentation and investigation to get better outcome.

Methods

A prospective study of total 90 patients of empyema Gall bladder were enrolled in

Department of General surgery either from OPD or from Emergency, Anmmch Gaya from December 2019 to October 2021. Patients of age more than 20 whose diagnosis was made according to Clinical, Radiological intervention or intra-op findings were included in the study. All data related to age, sex, religion, clinical pictures, investigations, treatment delivered, and outcomes were recorded. Statistical data analyzed using software in the form of graph and tables.

Results

[A] In our study we found majority of patients were in age group between 40-50 yrs. There was high incidence among Female patients. Less affected age group was between 20-30 yrs age and above 60 yrs. Male to female ratios was 1:1.8.

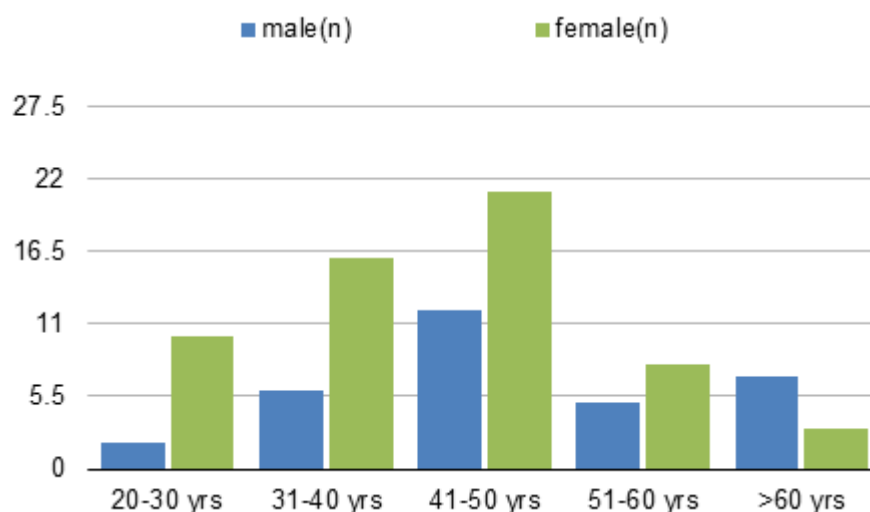


Figure 1: Age and sex distribution

[B]. Most of the patients attended Central Emergency with chief complaint of pain abdomen, epigastric fullness nearly 100%. Approx 78% of the patients were having fever in which mostly had low grade fever often associated with chill and rigor. Indigestion, bloating and vomiting tendency were seen in nearly all patients. Yellowish discoloration of eye and urine found in 24% of the patients.

Table 1: Presenting symptoms of patients

Chief complaints	Total no of patients	Percentage
Pain abdomen	90	100%
Vomiting/indigestion/nausea	84	93.33%
Fever with /without chill	78	86.67%
Yellowish discoloration of urine and or eye	22	24.44%

[C]. Laboratory investigations revealed altered Liver function test in almost all patients. Total WBC count were found variable having 91% of patients has >10,000/cmm count. Rest had found normal WBC Count.

Table 2: Lab investigation findings

Lab findings	Total no of cases(n)	Percentage
Abnormal LFT	90	100%
TOTAL WBC >10,000 /CMM	82	91
WBC<10,000/CMM	8	8.89

[D]. Table 3 show the procedure performed. In most of patients open cholecystectomy were performed on emergency basis, laparoscopic cholecystectomy done on nearly 40% of the patients in which 13% underwent conversion to open procedure. Drain was given in nearly all the patients. Specimen was sent for HPE. Pus aspirated sent for culture.

Table 3: Treatment Given

Procedure performed	Percentage
Lap Cholecystectomy	27.5%
Open Cholecystectomy	60%
Lap to Open Cholecystectomy	12.5%

[E]. On post operative day pain abdomen was noted in almost all patients (100%). Fever was seen in Approx 20% of patients inspite of use of antibiotics. Wound site especially drain site infection were seen in 28% of patients. Bile drain was noted in 16 patients, long days drain kept in 4 patients for 2 weeks duration. 13% of patients had cough Which was easily take cared of it. Nearly 80% of patients were discharged within 2 weeks period. 20% of patients has to be discharged between 15-20 days duration. 5 patients again admitted during followup within 1 month duration after discharge with complaint of upper abdomen pain and fever and chill, which was managed easily and were uneventfully discharged.

Table 4: Postoperative complication distribution.

Post of complications	No of cases	Percentage
Pain abdomen	80	88.89%
Wound site infection	26	28.89%
Fever	18	20%
Bile from drain/bile duct injury	16	17.78%
Respiratory problem	12	13.33%

[F]. All patients pus were sent for culture growth out of 90 patients we found positive growth in 62 patients (68.89%) in which most commonly isolated micro-organism was E.coli in 56% of patients followed by mixed infection which was approx 22%. Klebsiella infection found in approx 12% of patients. Other bacteria isolated were staphylococcus, pseudomonas etc.

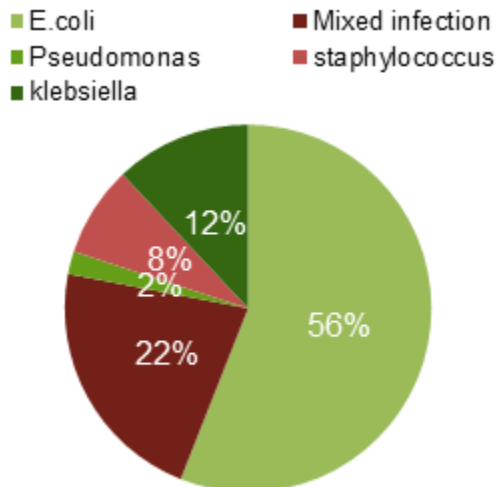


Figure 2: Showing percentage of types of Micro-organisms isolated.

Discussion

Management of empyema gall bladders has several practical variations. There is high conversion rate from lap to open cholecystectomy in previous studies 12.5%[10], 15.38%[11], 15.30[12], 42%[13]. Incidence of gall bladder diseases were common in females and incidence was high in age group 40-50yrs (Clock *et al*, Gery D *et al*). In our study we found higher incidence was among female and was common in 4th and 5th decade of life in both among male and female patients.

Pain abdomen was common presenting feature of nearly all patients who were admitted. Tseng LJ *et al*[15], studied 145 cases of empyema gall bladder he found right upper quadrant pain in among 70% of cases, epigastric pain in 27% and fever in 62% of cases. According to Malik A *et al*[16] he noted pain abdomen in all their cases, fever in 51 cases (76.11%) and vomiting in 19 cases (28.35%). In our study GI Symptoms were found in approx 94% of the patients. Approx 78% of the patients were having fever in which mostly had low grade fever often associated with chill and rigor.

In previous studies WBC counts were found high >10,000/cmm in more than 90% of patients[17]. Fry *et al* found > 91% abnormal one or more abnormal LFT among patients. In our study Laboratory investigations revealed altered Liver function test in almost all patients and high WBC count.

In most of patients open cholecystectomy were performed on emergency basis, laparoscopic cholecystectomy done on nearly 40% of the patients in which 13% underwent conversion to open procedure. There was pus spillage in approx 40% of patients, Drain was given in nearly all the patients. No patient underwent choledocholithotomy or T Tube drainage done. Specimen was sent for HPE. Pus aspirated sent for culture. According to Arshad Malik *et al* Laparoscopic cyolecystectomy done in 67 patients of empyema gallbladder.[16] LC was successfully completed in 54 (80.59%) patients whereas 13 patients underwent conversion. Nathan *et al* performed cholecystectomy in 45.2% and cholecystectomy in 54.8% of patients[19]. So, from these studies suggests cholecystectomy partial or total either open

or laparoscopically is an effective way to decrease morbidity of the patients.

During post op days pain abdomen was noted in almost all patients (100%). Fever was seen in approx 20% of patients inspite of use of antibiotics. Wound site especially drain site infection were seen in 28% of patients. Bile drain was noted in 16 patients, long days drain kept in 4 patients for 2 weeks duration. 13% of patients had cough Which was easily take care off. Nearly 80% of patients were discharged with 2 weeks period. 20% of patients has to be discharged between 15-20 days duration. 5 patients again admitted during followup within 1 month duration after discharge with complaint of upper abdomen pain and fever and chill, which was managed and went uneventful. According to Malik A metal port site infection, bile leaks intra-abdominal collection and respiratory infection found in 5.55%,3.37%,5.55% and 3.7% respectively.

In our study all patients pus were sent for culture growth. Out of 90 patients we found positive growth in 62 patients (68.89%) Most commonly isolated micro-organism was E.coli in 56% of patients followed by mixed infection which was Approx 22%. Klebsiella infection found in Approx 12% of patients. Other bacteria isolated were staphylococcus, pseudomonas etc.

Conclusion

High index of suspicion is warranted for the diagnosis of empyema GB as presentation are mostly like acute cholecystitis. All acute cholecystitis patients who are immunocompromised or having comorbidity are to be evaluated aggressively in order to reduce morbidity. In our study we found incidence of empyema was high in 4th - 5th decade. Female were more commonly affected. Almost all patients had complain of pain abdomen and abnormal LFT profile. Early aggressive approach has found better outcome.

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