Ultrasound-guided Percutaneous Cholecystostomy with Interval Laparoscopic Cholecystectomy in the Management of Acute Cholecystitis in High-risk Patients

Mustafa Bayoumi Abdel Wahab MD, Tohamy Alkhouly MD* & Essam El-Ghobashy MD**

Departments of General Surgery, Radiology* & Anesthesia & Intensive Care**, Faculty of Medicine, Benha University,

ABSTRACT

Objectives: This study aimed to evaluate the feasibility and outcome of ultrasound (US)-guided percutaneous cholecystostomy (PC) in high-risk patients for surgical intervention, as a preparatory procedure for assigned laparoscopic cholecystectomy (LC).

Patients & Methods: The study included 22 patients; 17 females and 5 males with mean age of 64.8±8.4 years and presented with a picture of acute cholecystitis (AC). All patients had co-morbidities; 13 were ASA grade III, 5 were ASA grade II, and 4 were ASA grade IV, with a median at admission APACHI II score of 10; range: 6-13. All patients underwent physical examination, laboratory investigations and abdominal US. US-guided PC was conducted through percutaneous transhepatic route, under fluoroscopic guidance an Accustick Introducer System was introduced into the gallbladder (GB) over a 0.018" guide wire and a 7F pigtail catheter was introduced for drainage. After subsidence of inflammation and improvement of general condition, LC was conducted.

Results: All patients had successful drainage and showed significant decrease of body temperature and total leucocytic count (TLC) and estimated serum C-reactive protein (CRP) levels at 24 and 72 hours after PC compared to at admission measures. The mean hospital stay for the PC procedure was 9.1±4.4 days, 2 patients died at ICU for unrelated causes and catheter dislodgement occurred in 3 patients (13.6%); one patient had successful catheter reinsertion, in the 2nd patient catheter reinsertion was not required and the patient was admitted for LC, while the 3rd patient presented with picture of localized peritonitis and was admitted to urgent LC that was converted to open cholecystectomy (OC) due to gall bladder perforation and pericholecystic abscess. One patient was readmitted after home discharge for intermittent recurrent symptoms, and after conservative treatment for 5 days, the inflammation subsided and the patient was prepared for LC. Eighteen patients underwent interval LC after a mean duration of 42.5±13.3 days. One patient required conversion to OC for the presence of severe inflammatory adhesions masking important structures and was discharged 5 days after surgery, 16 patients passed smooth postoperative course and returned home after a mean duration of 41.5±14.9 hours and one patient had successful LC but developed anginal attack and admitted for ICU for 4 days and was discharged uneventfully.

Conclusion: PC is an appropriate preparatory procedure for interval LC for elderly high-risk patients with AC with 100% success rate of application and relief of acute manifestations and catheter-related complication rates of 18.2%. Also, LG was feasible, safe surgical procedure in such high-risk patients.