Morbidity and mortality Post laparoscopic Cholecystectomy in cirrhotic patients

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Summary:

Background: Cholecystectomy in cirrhotic patients is commonly followed by high morbidity and mortality, the incidence of hepatic cirrhosis has increased since last decade as well as the occurrence of complication such as liver failure, portal hypertension, and biliary disorders.

Patients and methods: laparoscopic Cholecystectomy was performed in 24 cirrhotic patients (18 child A and 6 child B) in an effort to obtain lower complications and mortality rates. The mean age of the group was 51.8 years, ten of the 24 patients were men and 14 female.

Results: intraoperative complications such as bleeding, dense adhesion and long operative time were recorded.

Conclusion: laparoscopic Cholecystectomy was safe and will tolerated by selected cirrhotic patients (child A and B) with clear indication for surgery.

Keywords: Cholecystectomy, laparoscopic Cholecystectomy, liver cirrhosis.

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Introduction:

The incidence of hepatic cirrhosis had increased since last decade (1.2) as well as the occurrence of complications inherent to this type of disease, such as liver failure, portal hypertension, and biliary disorders (3).

The prevalence of cholelithiasis in cirrhotic patients seems to be twice that seen in noncirrhotic (4,5). Besides, hepatic cirrhosis is the leading cause of mortality after surgeries of the biliary complications in an inordinate number of patients suffering from chronic liver diseases (8).

Cholecystectomy in cirrhotic patients is commonly followed by significant morbidity and mortality. Therefore, it should be performed only in selected cases and under strict surgical indication (1,2,9,10,11). With the upcoming of the laparoscopic surgery, a technical procedure that causes less surgical trauma, it was expected that such technique could bring about better results, thus minimizing morbidity and mortality in cirrhotic patients(12,13). In this study we intend to review (24) cirrhotic who have undergone laparoscopic Cholecystectomy (L.C).

Patients and methods:

This prospective study was carried with liver cirrhosis and gall stones who underwent (L.C) in Baghdad teaching hospital (3rd surgical unit) from the 1st November 2007 to the end of April 2009.

Ten of these patients (41.62%) were male and 14(58.33%) were female, the mean age was 51.8 years (range 29-75 years)

All patients were symptomatic the most frequent complaint were postprandial bloating, abdominal pain and vomiting,(clinical, laboratory, and ultrasonographic tests) were carried out in all patients to detect liver disease and hepatic dysfunction.

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In 5 patients (20.8%) hepatic cirrhosis associated with gall stones were diagnosed preoperatively, however, in the remaining 19 patients (79.16%) liver cirrhosis could be identified only by intraoperative findings. Those patients did not present with clinical signs that confirmed a liver disease, and laboratory, ultrasonic investigations were normal.

All patients were operated on under GA, the operative technique followed the same standerd routine as (L.C) done in noncirrhotic patients apart from special care and particular attention to haemostasis of the gall bladder bed of liver

Results:

L.C. was electively performed in 24 patients, intraoperative complications such as bleeding (2patients), dense adhesion (9patients),and long operative time (6patients) were recorded in (17patients).

Table 1

Complications	No. and % of patients	
Bleeding (from the bed ofGB)	2patients	8.33%
Dense adhesion (with the bed of GB)	9patients	37.5%
Long operative time(more than one and half an hour)	6 patients	25%

The distribution of the patients according to the child's classification where the number of the patients as(child A) are 18(75)% and as (childB) are 6(25%).

Intraoperative findings showed a macro nodular liver in 2patients (8.33%), micro nodular liver in 5 cases (20.835), ascites in 2 patients (8.33%) and splenomegaly in one patients (4.165).

In 22patients (91.7%) intraoperative bleeding was comparable to that occurs in noncirrhotic patients, excessive bleeding (from the bed GB) occurred in the remaining 2patients (8.33%) in one case the bleeding was easily and rapidly controlled while the other case took a longer time (where the control of bleeding by by cautery and chips).GB injury

(spillage of bile) occurred in 4patients (16.66%) mainly due to dense adhesions between the cirrhotic liver and the gall bladder.

Postoperative complications occurred in 4patients (16.6%) renal and diabetes impairment, haematoma,ascetic fluid leak through the wound and wound infection, no patients required conversion to open method. There was no mortality one patient died 4months after (LC) due to sepsis caused by acute bacterial peritonitis unrelated to the surgical procedure.

Table 2: postoperative evolution of 24 cirrhotic patients who underwent (L.C)

Postoperative	Day	No. and % of patients
Walking	IPO 1st PO	21patients 87.5% 3patients 12.5%
Feeding	IPO 1st PO	2patients 8.33% 22patients 91.66%
Discharge	1st PO 2nd PO >2nd PO	3patients 12.5% 18patients 75% 3patients 12.5%

IPO: immediate postoperative
1st PO: first postoperative day
2nd PO: second postoperative day

Discussion:

The prevalence of cholelithiasis in the cirrhotic population is twice than that in noncirrhotic patients (1,3,5-7). Some pathogenic factors seem to be associated with that fact, among them, hemolysis, alcohol as an enzyme induction of the hepatic conjugation, hypersplenism, reduction of the biliary acidity functional alterations of the gallbladder, and metabolic liver failure, resulting in an increase of uncinjugated bilirubin secretion (3,12-18).

Cholecystectomy in cirrhotic patients is followed by a high mortality rate ranging from (7) to 26% (1,3,9,10). These results are considered extremely unfavorable compared with the mortality rate after Cholecystectomy in noncirrhotic patients, about (0.5) to 1% (8). These results were comparatively higher than ours, which showed one case only and wasn't related to surgery (late sepsis) due to bacterial peritonitis. This could be attributed to the selectivity of our sample (child A and B).

The worse the liver functions, the more severe that case. The morbidity rates is also too high in these groups (3,9,10,19,21) and results mainly from liver failure, intraoperative blood loss, digestive hemorrhage, sepsis and multiple transfusions, regards the morbidity rate in our study it was relatively in agreement with the above mentioned series.

Such poor results have placed Cholecystectomy in cirrhotic patients as an avoidable surgical procedure because of the seriousness of the therapeutic approach in a group of high –risk, critically ill patients. In child A and child B patients, Cholecystectomy presents significant morbidity and mortality, but it of the disease. Becase of the high morbidity rate.

This surgery should be avoided in child Cpatient. All efforts should be concentrated on an attempt to improve the liver function, mainly through adequate control of ascites and a better nutritional approach in the preoperative period (3).Alcohol intake susceptible to complications during the acute phase of alcohol intake and should be operated far away from this period, which may be one of the reasons for our good results: that is, our group included only one alcoholic patients. Surgical procedure should be done only in clinically stable patients, particularly in alcoholic cirrhotics.

All patients suffering from liver diseases and selected undergo Cholecystectomy should be carefully preoperatively including clinical examinations, laboratory evaluation (liver function tests), echography, endoscopy, and other required measures. The purpose of this protocol is to determine the level of hepatic function.

Severe bleeding is observed during the liver bed dissection due to collateral circulation, one useful approach is suparcystic Cholecystectomy this technique tries to avoid close dissection to the liver hylum a dangerous operative time in cirrhotic patients.

In our cases this maneuver was not necessary, but the surgeon must be aware of this alternative procedure. Other factors, such as the traumatic surgical and anesthetic procedures themselves, are considered equally relevant, account for alterations in liver function, and also determine the mortality rate. As a prompt, less invasive approach that also reduces surgical trauma, besides reducing the time and need of anesthetic drugs surgeons expected lower morbidity and mortality rates. Recently, de paula et al.(12) showed their initial experience with Ic in child A and B cirrhotic patients. The results were encouraging, no mortality nor significant complications were observed.

In our study, we arrived at the same conclusions, that is, no mortality occurred, and morbidity was low and easily controlled. A major encouraging fact was the absence of liver failure in the post operative period. Even in cases when the procedure took longer or when patients had excessive blood loss, postoperative recovery was fast with relatively early feeding and dismissal from hospital. However, such results should be interpreted cautiously because they are probably related to the type of cirrhotic patients we operated on in this initial phase (child A and B). We avoided management of child C patients because, in such cases, any procedure is followed by a high mortality rate.

In the present study, we analyze our initial experience using this procedure in selected patients (child A and B). among the benefits of (LC) we could point out prompt postoperative recovery, absence of liver failure, early discharge from hospital, laparoscopic Cholecystectomy in cirrhotic patients should be performed in institutions equipped with intensive care units,a prompt and well supplied blood bank, and qualified surgeons experienced in liver surgeries.

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