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CHOLECYSTECTOMY; IS DRAINAGE NECESSARY?

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ABSTRACT... **Objective:** To compare the outcome of cholecystectomy with and without drainage. **Design:** Descriptive; analytical. **Place and duration of Study:** The study was carried out from Jun 2005 to Nov 2006 at Unit III, Department of Surgery, Liaquat University of Medical & Health Sciences, Jamshoro. **Material & Methods:** All the patients diagnosed as cholelithiasis were treated with open cholecystectomy. The patients were randomly divided in group A and B. Number 18 Nasogastric tube was inserted in subheptic space after cholecystectomy in Group A, and no drain tube was placed in group B patients. Postoperatively patients in both groups were given same antibiotics. Postoperative complications and hospital stay were monitored in both groups. Exclusion criteria were cardiopulmonary disease, cirrhosis liver and diabetes mellitus. Patients with acute cholecystitis and choledocholithiasis were also excluded from study. Z-test is used to test the difference between proportions of two groups are statistically insignificant. **Results:** During the study period a total of 100 patients were operated for cholelithiasis, with 50 patients in each group. The mean age for group A and B were 46 and 45 years respectively. The female to male ratio in the group A and B were 45:5 and 43:7 respectively. Mortality rate in both groups was zero. Group A had two cases of infected collection in subhepatic space and five cases of wound infection. In group B one patient with bile collection, one infected collection and two cases had wound infection. Mean hospital stay was 3.7 in group A as compared to 2.26 in group B. Both groups are statistically insignificant with respect to complications. **Conclusion:** Routine drainage after cholecystectomy is unnecessary.

Key words: Cholecystectomy, Drain, Wound-Infection, Hospital-Stay, Bile-collection.

INTRODUCTION

Without clear scientific evidence, prophylactic drainage after elective cholecystectomy is a routine practice since long. This allows monitoring for any postoperative bleeding as well as biliary leakage. However recent reports have shown there is no benefit of drainage after elective cholecystectomy. Surgically placed drains have

been associated with increased rates of intraabdominal and wound infections, increased abdominal pain, decreased pulmonary functions and prolonged hospital stay¹. Numerous Randomized Controlled trials were performed on prophylactic drainage after open cholecystectomy. All trials failed to demonstrate a reduction of postoperative complications²⁻¹².

There are scanty local publications on this aspect, and no consensus has been established. We conducted this study to know the patterns of complication and any advantage of placing in the drain after elective cholecystectomy.

PATIENTS AND METHODS

This descriptive analytical study was conducted from Jun 2005 to Nov 2006 at Surgical Unit III of LUMHS, Jamshoro. Consecutive 100 patients with cholelithiasis were treated with open cholecystectomy. The eligibility criteria were under 60 years old, and the provision of informed consent to participate in the study. Patients with acute cholecystitis and choledocholithiasis were not included. In addition patients with other comorbidities like cardiopulmonary disease, cirrhosis liver and diabetes mellitus were also excluded.

The patients were randomly distributed to group A and B. In group A (n=50), a nasogastric tube of number 18 was inserted below the liverbed. The drain was removed 48 hours after operation. In group B no drain was placed in. Intravenous Salbactam/Cefoperzone was given to all patients 30 minutes before operation 6 hours after operation and next day morning. The stitches were removed on 10th postoperative day. The patients in group A & B were compared for the mortality, bile collection, infected collection, wound infection and hospital stay duration.

RESULTS

During the study period a total of 100 patients were operated for cholelithiasis, with 50 patients in each group. The mean age for group A and B were 46 and 45 respectively. The female to male ratio in the group A and B were 45:5 and 43:7 respectively. The spectrum of complication in two groups are shown in Table-I.

Table-I. Comparison of Complication among patients in group A & B (n=100)

Complications	Group A (n=50)	Group B (n=50)	P-value
Mortality	0	0	-
Bile collection	0	1	0.241
Infected collection	2	1	0.336
Wound infection	5	2	0.200
Total no of patients with complications	7	4	0.252
Mean hospital stay	3.7	2.26	-

DISCUSSION

There is controversy on the use of prophylactic drain after cholecystectomy. Many studies have been done questioning the routine use of prophylactic drainage. We conducted this study at LUMHS, Jamshoro to test the claim that routine drainage after cholecystectomy is unnecessary. In this study cholecystectomy was performed in 100 patients, who were randomly distributed in group A (with drain) and group B (without drain). There were 50 patients in each group, the mean age and sex distribution were comparable in two groups.

In our study the mortality rate was zero in both the groups. The complication rate in drainage group A was 14% (7 out of 50 patients) and in non-drainage group B was 8% (4 out of 50 patients) and the difference is statistically insignificant as p-value is 0.252. The spectrum of complications in drainage group was, wound infection (5) and two cases of infected collection in subhepatic space. In non-drainage group infected collection was seen in one patient and wound infection in two patients. The collection was managed with ultrasound guided aspiration and IV antibiotics. The complications depicted in our study go in accordance with international literature. S.Schule and T.Lenherth also showed in a review that rates of infectious complications

is high if drain is used after cholecystectomy¹³. Ranaghan JE et al also concluded by reviewing 200 charts that mortality and complication rate is increased with drainage¹⁴.

Mean hospital stay in our study was 3.7 day in drainage group as compared to 2.26 days in non-drainage group. The cost of treatment was affected accordingly. Many of the studies in international literatures depict prolonged hospital stay in those patients who had drainage after cholecystectomy. Trowbridge PE reviewed 100 cases of cholecystectomies and concluded that hospital stay was shortened in patients who did not undergo drainage¹⁵. Hawasli A and Brown E also concluded from a prospective study of 100 patients undergoing elective cholecystectomy that patients can be discharged early in non-drainage group¹⁶. Therefore our results are in agreement with the international literature.

There is sufficient international data in the form of randomized trials to prove that routine drainage of subhepatic space after elective cholecystectomy is unnecessary and contributes to increased postoperative mortality, increased length of hospital stay and higher rate of complications. Levunay-Sanvary & Slim K concluded with a good level of evidence that prophylactic drainage has no place following elective cholecystectomy¹⁷.

CONCLUSION

Placing of drainage as routine after elective cholecystectomy has no advantage, therefore it should be avoided.

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