

Original Article

Drainage after Cholecystectomy is Unnecessary

Shaukat. A. Shaikh, Abid Hussain, M.Hanif

From Department of Surgery, Margalla Teaching Hospital, Rawalpindi.

Correspondence: Dr Shaukat Shaikh.

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ABSTRACT

Objective: To determine necessity of use of drainage after cholecystectomy.

Methods: The study included 70 patients under going cholecystectomy with and without drainage. Incidence of complications, sub-hepatic collection and time spent in hospital were noted in the two groups. Age and gender distribution, indications of surgery and operative procedures were similar in both groups.

Results: No significance differences were observed in post-operative morbidity and mortality rates in two groups. There was more post-operative pain, fever and delayed hospital stay in Drain group.

Conclusion: Drainage in cholecystectomy is unnecessary and associated with more complications than those without drain. (Rawal Med J 2009;34:105-107).

Key Words: Cholecystectomy, cholelithiasis, drainage.

INTRODUCTION

Gallstone disease is a widespread disorder all over the world and affects about 10 to 15 % of the adult population with a higher prevalence in women with obesity and multiple pregnancies. Gallstones are more common in adults than in children or elderly persons; in females than in males and the causes for these age- and sex-related variations are now well known (1, 4, 8). The cholecystectomy is one of the most common elective abdominal operations (2). Open cholecystectomy was first performed in 1882 by Carl Langenbech, he appropriately stated, "The gall bladder needs to be removed not because it contains stones, but because it forms them" (3). Although laparoscopic cholecystectomy is now the gold standard, but in developing countries where economical constraints are major concern, open cholecystectomy is good alternative and has been the standard operation for the gallstone disease for the last 100 years (3, 4). But the controversy still exists among the surgeons regarding placement of Drain in the sub-hepatic gall bladder bed. The only chance of finally settling the controversy is the long term randomized controlled study. Our study noticed increased morbidity and prolonged hospital stay in drained group as compared to non-drained group; suggesting that drainage cholecystectomy is unnecessary.

PATIENTS AND METHODS

This retrospective and prospective study was carried out in Margalla Teaching Hospital, Surgi-Care Hospital and Pervaiz Nursing Home Rawalpindi over the last 5 years from January 2003 to April 2008. From January 2003 to May 2006 the data of patients under going cholecystectomy was reviewed and from June 2006 to April 2008 a comparative prospective study was carried out. The patients were divided into two groups; drain group and non-drain group, each containing 35 patients. The drain used in our study was passive Tube-drain with a closed system and was inserted through a separate stab incision. Patients of acute cholecystitis and chronic calculous cholecystitis were included in the study and diagnosis was based on ultra sound examination. The surgical procedure was same in both groups. The exploration of the common bile duct was not carried out in any case. The comparative criteria of study was post operative nausea and vomiting, pain and analgesia requirements, post operative mortality and morbidity regarding wound-infection and chest infection, post operative hospital stay, sub-hepatic collection detected on untrasonography on 5th-10th post operative day.

RESULTS

A total of 70 cases were selected for the study, with 35 cases in each group (Table 1). Mean age in both groups was 44.6 years; there were 63 (90%) females and 7 (10%) males. The overall female to male ratio was 9:1. There was no significant difference in the operating time in the two groups.

Table 1. Classification of the selected groups.

Hospital	Drained group	Non-drain group
Margalla Teaching Hospital	22	26
Surgi-care Hospital	6	4
Pervaiz Nursing Home	7	5
TOTAL	35	35

Post operative pain with the increased analgesic requirements was noted in patients with drain group as compared to non-drain group. Increased rate of post operative chest and wound infection with pyrexia were observed in drain group. Seven (15%) patients developed chest infection, out of which five were from drained group and two from non-drained group. High wound infection was also noticed in drained group (3 patients), as compared to un-drained group (1 patient).

Table 2. Post operative complications in both groups.

Complications	Drain group	Non-drain group
Post operative	35	17
Pain(day 1 -3)		
Chest infection	5	2
Wound infection	3	1
Intra-abdominal Abscess	0	0
Length of hospital stay	5.6 days	3.5 days
Biliary fistula	0	0
Deaths	0	0

The overall morbidity was 36% in drained group and 12% in un-drained group. There were no deaths in either group. The mean hospitals stay was 5.6 days in drained groups and 3.5 days in un-drained group (Table 2). No significant subhepatic collection was detected on ultrasonography performed on 5th to 10th post operative in either group.

DISCUSSIONS

In the year, since the first successful elective cholecystectomy in 1888 by Langenbeck, the issue of the use of routine drainage is still unresolved, leading a clear answer. Spivak et al in 1913 reported first cholecystectomy without drainage (5). In 1915 Yachet et al described that there is no was to drain the peritoneal cavity and nothing extra is to be gained by leaving drains in the fossa after cholecystectomy. Any leakage of blood and bile from the gall bladder bed is effectively absorbed by the peritoneum. (6, 7, 8). The holes of the drain gets plugged with fibrinous exudates and clotted blood (9). The practice of using drain after cholecystectomy is based on tradition other than any other scientific fact. It is associated with increased morbidity, slow convalescence significance post operative nausea and pain and delay return to the job (9, 10). The present study also revealed that putting a drain after cholecystectomy is useless and unnecessary and it is associated with increased morbidity. The other logic for drainage of sub-hepatic space after cholecystectomy is fear of bile leakage from the gall-bladder bed that may lead to bile peritonitis. However, many cases have been reported where indwelling drains failed to drain the bile peritonitis or pericholecystic abscess. Therefore the lack of bile leakage from a drain cannot be interpreted as the absence of bile leakage (11). According to Frederich Coller "Bile is not educated to climb up the drains". Drains become surrounded

by omentum or blocked by some clot or exudates soon after the insertion into the peritoneal cavity and thereby isolated (11, 12). Ultrasonography performed after cholecystectomy on the discharge-day of the patient revealed no significant subhepatic collection in either group. This is also noticed by other workers (13, 14). Cholecystectomy without drainage carries short hospital stay (12). Our study also supports the view and we also suggest that all cholecystectomies should be completed without drainage of gall bladder fossa.

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