

CHOLECYSTECTOMY WITH AND WITHOUT DRAINAGE

Pages with reference to book, From 6 To 8

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ABSTRACT

Thirty patients underwent cholecystectomy without drainage, and 16 matched controls cholecystectomy with drainage. The wound infection rate was lower, hospital stay shorter and overall complication rate less in undrained patients. This study suggests that surgical drainage after uncomplicated cholecystectomy is unnecessary and may be unwise (JPMA 41:6, 1991).

INTRODUCTION

In 1913, 31 years after Langenbuch¹ performed the first cholecystectomy, Spivak² introduced the technique of undrained ideal cholecystectomy. Since then many investigators have advocated omission of drainage after cholecystectomy under certain circumstances³⁻¹¹. These reports describe a lower incidence of post operative morbidity, decreased hospital stay, easier convalescence and less discomfort. However most surgeons currently continue to drain the gall bladder bed. This study was designed to determine whether surgical drainage after simple cholecystectomy is necessary or not.

PATIENTS AND METHOD

From December 1987 to November 1989, 52 cholecystectomies were performed. Initially 32 operations were performed at Lahore General Hospital, while later 20 patients were operated upon at Mayo Hospital, Lahore. Only those cases were included in study who fulfilled the following criteria at surgery.

- 1) Absence of empyema or other evidence of gross infection.
- 2) A relatively dry gall bladder bed at the end of operation.
- 3) Elective operations that did not include exploration of common bile duct.

Of 52 patients, 6 did not fulfill the above criteria (all of them required common bile duct exploration) and were therefore excluded from the study. Of the remaining 46 patients, 44 were females and 2 males. Their ages ranged from 18 to 60 years. Thirty patients underwent cholecystectomy without drainage and 16 with drainage. Cholecystectomy was performed under general anaesthesia through a Kocher's subcostal or Mayo-Robson incision. If drainage was provided, it was done through a separate stab wound using a tube drain in the gallbladder bed. It was attached to a closed drainage bag without suction. Antibiotics were used routinely perioperatively.

RESULTS

Table. Post-operative complications and mortality.

Complication	Without Drainage		With Drainage		Overall	
	Number	Percent	Number	Percent	Number	Percent
Mortality	0/30	0	0/16	0	0/46	0
Wound infection	0/30	0	2/16	12.5	2/46	4.3
Drain wound haemorrhage	0/30	0	1/16	6.2	1/46	2.2
Over morbidity	0/30	0	3/16	18.7	3/46	6.5

The accompanying table shows the frequency of post-operative complications. No death occurred in either group. Wound infection occurred in 12.5% patients with drains, and in none of the patients without drain, including 2 with incidental appendectomy. None of the patients with wound infection had any associated risk factor like obesity or diabetes. Haemorrhage from drain wound occurred in one patient which needed re-exploration. There was no case of bile peritonitis or abscess nor any case of Waltmann Walter's syndrome. Considering all post-operative complications as a single category, the group with drainage had a greater frequency of post-operative complications (18.7%) than did the group without drainage (0%). Post-operative hospitalization in patients without drainage ranged from 3-9 days with a median of 6 days, while in those with drainage it ranged from 6-17 days with a median of 9 days, One patient in drainage group who had a haemorrhage from drain site had the longest hospital stay (17 days).

DISCUSSION

A large number of surgeons continue to use drainage in all patients undergoing cholecystectomy. This practice is based on tradition rather than any scientific fact^{4,12}. Mostly drains are employed in patients with acute cholecystitis, empyema, gangrene or perforation of the gall bladder; abscess formation, common bile duct exploration, incomplete haemostasis, evidence of bile leakage, and non-closure of gall bladder bed¹³. Results of this study are similar to other reports^{5,11,12}, demonstrating more frequent wound infection in patients with intraperitoneal drains because drain being a foreign body allows the bacteria to gain access to the gall bladder bed or the abdominal walls and dressing made wet by drain discharges predisposes to bacterial contamination. The median post-operative hospital stay of our patients without drainage was 3 days shorter than that of those with drainage. Similar results are reported by others^{4,5,11}. Patients were discharged on the basis of clinical assessment; therefore we believe that a shorter hospitalization of patients without drainage represents an unbiased judgement of a better hospital course. The major reason for drainage of the subhepatic space after cholecystectomy is the fear of bile leakage that may lead to bile peritonitis or Waltmann Walter's syndrome¹⁴. However many cases have been reported where surgical drain failed to prevent bile peritonitis or pericholecystic abscess^{11,15-18}. The belief that surgical drains serve as an early warning of bile leakage, impending bile peritonitis, or intra-abdominal haemorrhage is also disputed^{11,15,18}. Many cases have been reported where bile peritonitis occurred without warning hours to weeks after cholecystectomy with drainage^{11,16,17}. Therefore the lack of bile leakage from a drain cannot be interpreted as the absence of

bile leakage or impending bile peritonitis¹⁵ as according to Frederick Coller "bile is not educated to climb drains"¹⁹. Sometimes drain may knot within the peritoneal cavity and these patients may require reexploration. Cholecystectomy without drainage has a similar mortality, and a decreased morbidity³⁻¹¹. Results of neither this study nor others contradict the use of drains in the presence of bacterial sepsis or gross bile leakage. However we believe that in uncomplicated cases with a dry gall bladder bed, drainage is unnecessary.

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