

# Prospective Randomized Clinical Trial of the Value of Intraperitoneal Drainage After Pancreatic Resection

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## Objective

To test the hypothesis that routine intraperitoneal drainage is not required after pancreatic resection.

## Summary Background Data

The use of surgically placed intraperitoneal drains has been considered routine after pancreatic resection. Recent studies have suggested that for other major upper abdominal resections, routine postoperative drainage is not required and may be associated with an increased complication rate.

## Methods

After informed consent, eligible patients with peripancreatic tumors were randomized during surgery either to have no drains placed or to have closed suction drainage placed in a standardized fashion after pancreatic resection. Clinical, pathologic, and surgical details were recorded.

## Results

One hundred seventy-nine patients were enrolled in the study, 90 women and 89 men. Mean age was 65.4 years (range 23–87). The pancreas was the tumor site in 142 (79%) patients, with the ampulla ( $n = 24$ ), duodenum ( $n = 10$ ), and distal

common bile duct ( $n = 3$ ) accounting for the remainder. A pancreaticoduodenectomy was performed in 139 patients and a distal pancreatectomy in 40 cases. Eighty-eight patients were randomized to have drains placed. Demographic, surgical, and pathologic details were similar between both groups. The overall 30-day death rate was 2% ( $n = 4$ ). A postoperative complication occurred during the initial admission in 107 patients (59%). There was no significant difference in the number or type of complications between groups. In the drained group, 11 patients (12.5%) developed a pancreatic fistula. Patients with a drain were more likely to develop a significant intraabdominal abscess, collection, or fistula.

## Conclusion

This randomized prospective clinical trial failed to show a reduction in the number of deaths or complications with the addition of surgical intraperitoneal closed suction drainage after pancreatic resection. The data suggest that the presence of drains failed to reduce either the need for interventional radiologic drainage or surgical exploration for intraabdominal sepsis. Based on these results, closed suction drainage should not be considered mandatory or standard after pancreatic resection.

Prophylactic drainage of the peritoneal cavity after gastrointestinal surgery has been widely practiced since the

Presented at the 121st Annual Meeting of the American Surgical Association, April 26–28, 2001, the Broadmoor Hotel, Colorado Springs, Colorado

Funded in part by the Milton and Bernice Stern Fund for Pancreatic Research.

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Accepted for publication April 26, 2001.

mid-1800s, with the dictum of Lawson Tait, the 19th-century British surgeon, "When in doubt, drain," well known to all surgical trainees. However, data are lacking as to the efficacy of such an approach, and recent reports have suggested that many upper abdominal surgical procedures can be performed safely without drainage. In pancreatic surgery, the use of surgically placed drains is still considered routine after resection. Multiple suction catheters normally are placed in the right and left subhepatic space in relation to both the biliary and pancreatic anastomoses. The intent of these drains is to remove collected blood, bile,