

Surgical drainage was more effective than endoscopic drainage in obstruction of the pancreatic duct in chronic pancreatitis

Cahen DL, Gouma DJ, Nio Y, et al. Endoscopic versus surgical drainage of the pancreatic duct in chronic pancreatitis. *N Engl J Med.* 2007;356:676-84.

Clinical impact ratings: Gastroenterology ★★★★★☆

QUESTION

In patients with distal obstruction of the pancreatic duct in chronic pancreatitis (CP), how do endoscopic and surgical (pancreaticojejunostomy) drainage compare?

METHODS

Design: Randomized controlled trial (RCT).

Allocation: Unclear allocation concealment.*

Blinding: Unblinded.*

Follow-up period: Median 2 years (range 6 to 24 mo).

Setting: Hepato-pancreatico-biliary outpatient clinic of the Academic Medical Center, Amsterdam, the Netherlands.

Patients: 39 patients 18 to 80 years of age (mean age 49 y, 67% men) who had CP; distal obstruction of the pancreatic duct; and severe, recurrent pancreatic pain that required opiates or could not be relieved with nonnarcotic analgesics. Exclusion criteria were enlarged pancreatic head > 4 cm, contraindications to surgery or endoscopy, previous pancreatic surgery, suspected pancreatic cancer, life expectancy < 2 years, or pregnancy.

Intervention: Endoscopic transampullary drainage ($n = 19$) or surgical drainage (Partington-Rochelle side-to-side pancreaticojejunostomy) ($n = 20$).

Outcomes: Mean Izbicki pain score (range 0 to 100; higher scores indicate more severe pain, based on frequency and intensity of pain, use of analgesics, and disease-related inability to work). Secondary outcomes

included pain relief, physical and mental health (SF-36 quality of life questionnaire scores), mortality, length of hospital stay, number of procedures performed, complications, and markers of endocrine and exocrine function.

Patient follow-up: 97% (intention-to-treat analysis).

MAIN RESULTS

At 2 years, the surgical group had lower Izbicki pain scores, more patients with pain relief, better SF-36 physical health scores, and lower median number of procedures performed than did the endoscopic group (Table). Groups did not differ for SF-36 mental health scores (Table), mortality,

length of hospital stay, complications, or changes in endocrine or exocrine function.

CONCLUSION

Surgical drainage (pancreaticojejunostomy) was more effective than endoscopic transampullary drainage in patients with distal obstruction of the pancreatic duct in chronic pancreatitis.

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*See Glossary.

Surgical (pancreaticojejunostomy) vs endoscopic drainage in patients with distal obstruction of the pancreatic duct in chronic pancreatitis at median 2 years†

Outcomes	Surgery	Endoscopy	Difference (95% CI)	
Mean Izbicki pain score‡	25	51	-24 (-36 to -11)§	
Mean SF-36 physical health scores	47	38	8 (3 to 13)§	
Mean SF-36 mental health scores	45	40	3 (-1 to 8)§	
Median number of procedures	3	8	-5 (-8 to -2)	
			RBI (CI)	NNT (CI)
Pain relief	75%	32%	138% (26 to 404)	3 (2 to 9)

†Abbreviations defined in Glossary. RBI, NNT, and CI calculated from data in article.

‡Score range 0 to 100; higher scores indicate more severe pain, based on frequency and intensity of pain, use of analgesics, and disease-related inability to work.

§After analysis of covariance with adjustment for baseline scores.

||Higher scores indicate better quality of life.

COMMENTARY

Successful pain management in CP has long been a difficult and elusive goal. Cahen and colleagues presented the second major RCT that compared endoscopic with surgical treatment of symptomatic CP and concluded that surgery was the superior method. However, despite randomization, clinically refractory patients may have been unintentionally allocated to the endoscopic group because of the small sample size ($n = 39$). In a similar study with a larger sample size ($n = 72$), groups did not differ for initial pain reduction (1). However, at the 5-year follow-up, complete absence of pain was more frequent after surgery (37% vs 14%) and groups had similar rates of partial relief (49% vs 51%) (1).

In the study by Cahen and colleagues, 10-French biliary stents without side holes were used in the endoscopic group. Stents with side holes can enhance pain control by allowing pancreatic fluid drainage; their use might have improved endoscopic outcomes. For patients with intraductal stones, Dumonceau and colleagues showed that 58% of patients who received extracorporeal shock wave lithotripsy (ESWL)

achieved complete pain relief at 4 years (2); these results were similar to those of the endoscopic group in the study by Cahen and colleagues, but fewer procedures were required. Thus, ESWL may be an alternative to surgical decompression of a stone-obstructed duct. Ultimately, this study points toward definitive surgery as a better option in severe refractory cases of end-stage CP. Whether these results can be extrapolated to management of earlier disease needs to be evaluated.

Endoscopic therapy should still be offered to patients with comorbid conditions that preclude surgery and to patients who prefer it because it results in shorter hospital stays and fewer complications.

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References

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