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


Clinical impact ratings: Gastroenterology ★★★★★✩

Question
In patients with distal obstruction of the pancreatic duct in chronic pancreatitis (CP), how do endoscopic and surgical (pancreateicojejunostomy) 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 pancreateicojejunostomy) (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, complications, or changes in endocrine or exocrine function.

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, number of procedures performed, complications, and markers of endocrine and exocrine function.

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

Main results

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Surgery</th>
<th>Endoscopy</th>
<th>Difference (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Izbicki pain score†</td>
<td>25</td>
<td>51</td>
<td>-24 (-36 to -11)‡</td>
</tr>
<tr>
<td>Mean SF-36 physical health scores</td>
<td>47</td>
<td>38</td>
<td>8 (3 to 13)§</td>
</tr>
<tr>
<td>Mean SF-36 mental health scores</td>
<td>45</td>
<td>40</td>
<td>-3 (-1 to 8)§</td>
</tr>
<tr>
<td>Median number of procedures</td>
<td>3</td>
<td>8</td>
<td>-5 (-8 to -2)</td>
</tr>
</tbody>
</table>

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

Source of funding: AstraZeneca.

For correspondence: Dr. D.L. Cahen, Academic Medical Center, Amsterdam, the Netherlands. E-mail: djca@zha.nl.

*See Glossary.

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.

Jennifer Chennat, MD
Irving Wazman, MD
University of Chicago Medical Center
Chicago, Illinois, USA

References