

Endoscopische behandeling van complicaties van chronische pancreatitis

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Disclosure

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Leerdoelen

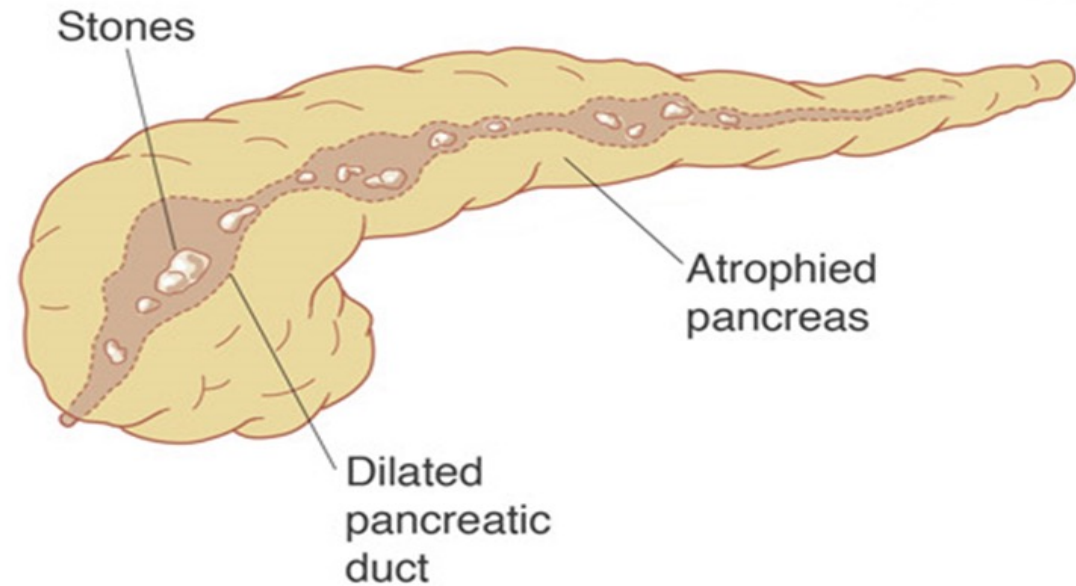
Wat zijn de indicaties voor transgastrische benadering of stenting?

Hoe dient dit te worden verricht?

Hoe is de verdere follow-up?

Indicaties voor endoscopische transmurale of transpapillaire drainage / stenting

- Pijn
- Koorts, sepsis
 - geïnfecteerde pancreascollectie
- Mechanische obstructie
 - maaguitgang, - lumen
 - galweg



Indicaties voor endoscopische transmurale of transpapillaire drainage / stenting

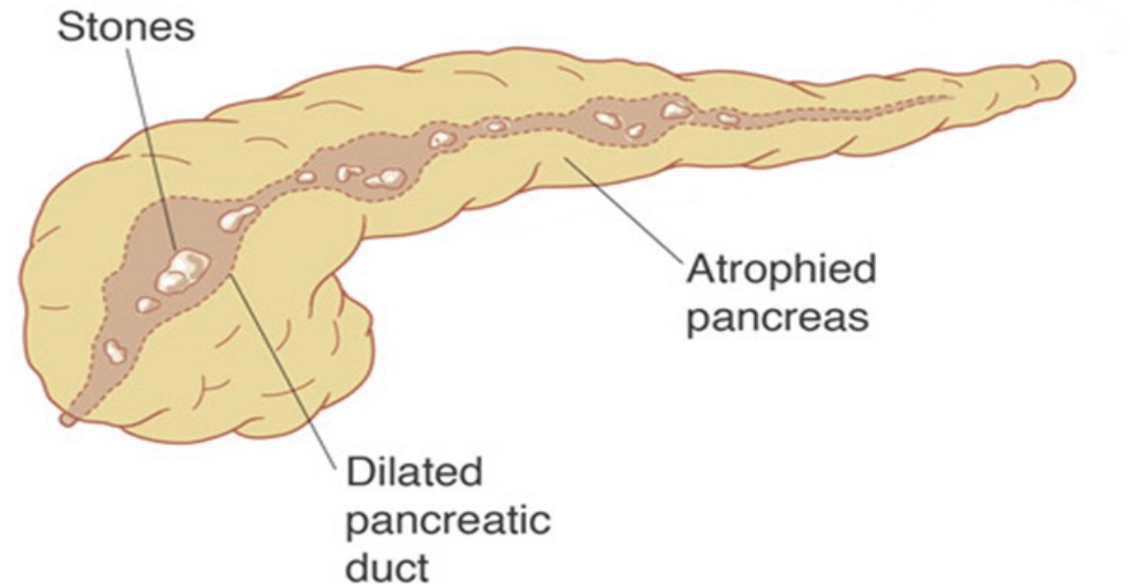
- Pijn

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Complicaties (lokaal) van pancreatitis

Acute pancreatitis

- acute peripancreatische vocht collectie
- Pseudocyste
- acute necrotische collectie
- steriele walled-off necrose (WON)
- geïnfecteerde WON

Chronische pancreatitis

- Pseudocyste
- Stenosing en dilatatie ductus pancreaticus
- Lekkage ductus pancreaticus (disruptie)
- Biliaire obstructie

Endoscopische behandeling complicaties (lokaal) van pancreatitis

Acute pancreatitis

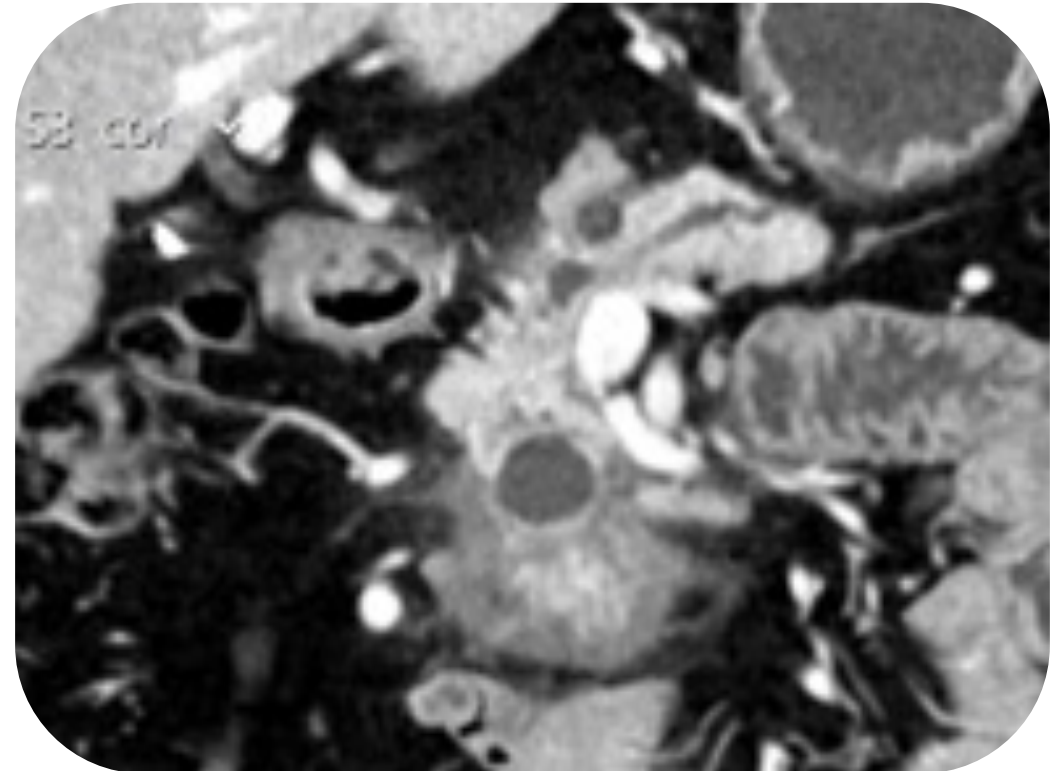
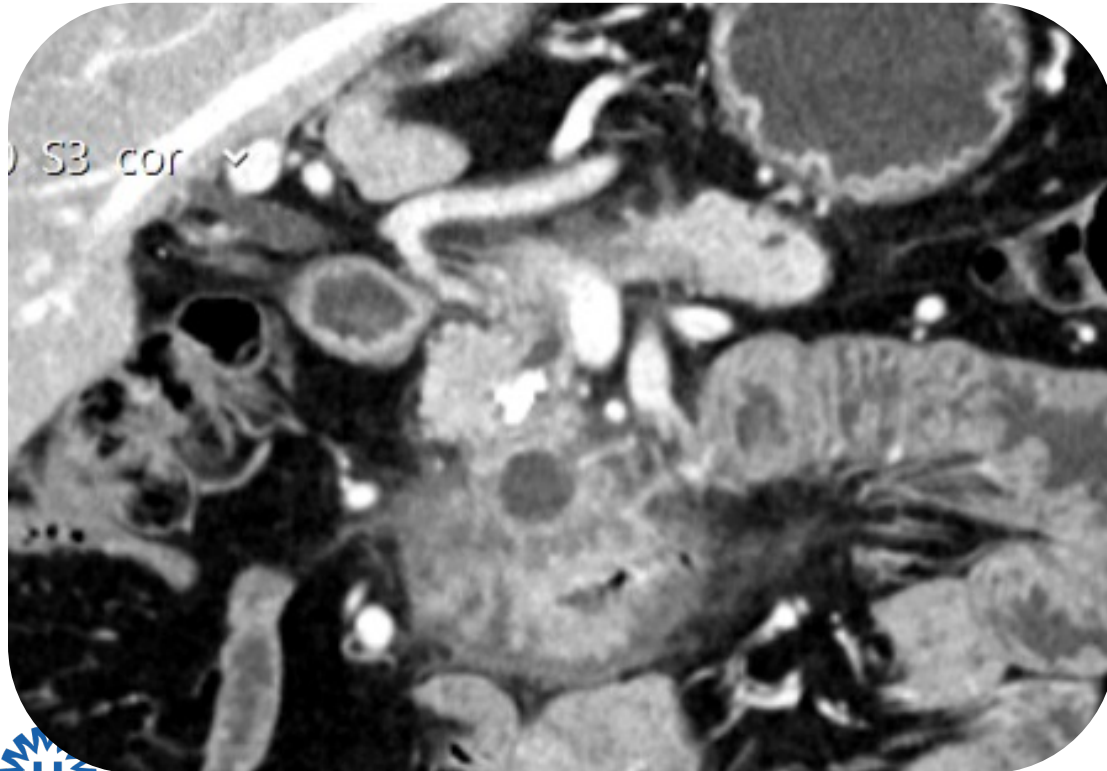
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Chronische pancreatitis

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Casus: 58 jarige man

Pijn sinds 3 maanden, NRS 5 dagelijks met opstoten, gebruikt paracetamol
Alcohol gestopt, roken +++



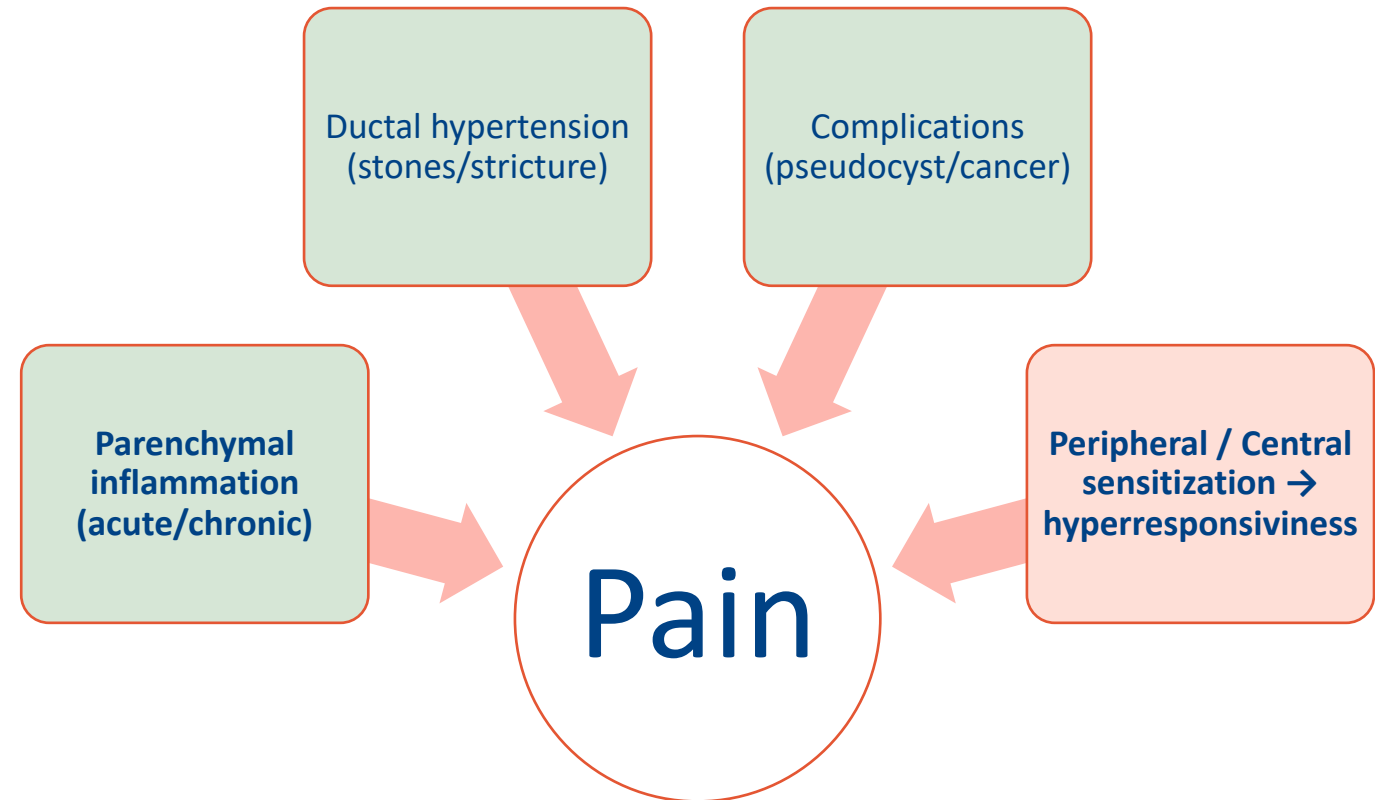
Casus: 58 jarige man

Welke behandeling stel je als eerste aan patient voor ter behandeling van pijn?

1. Starten NSAID en evt opiaten
2. Endoscopische therapie: ERP
3. ESWL
4. Chirurgie: Whipple operatie
5. Chirurgie: Duodenum-sparende pancreaskop resectie (Beger/Frey)
6. Enzymsuppletie therapie

Pijn bij chronische pancreatitis

Symptoms	Prevalence in Chronic Pancreatitis, %
No pain ⁵³⁻⁵⁵	6-24
Abdominal pain ⁵³⁻⁵⁷	60-94
Pain pattern types	
A, Usually pain free, but episodes of mild to moderate pain ^{53,54}	9-13
B, Constant mild to moderate pain ^{53,54}	8-34
C, Usually free of abdominal pain, but episodes of severe pain ^{53,54}	19-51
D, Constant mild to moderate pain plus episodes of severe pain ^{53,54}	45
E, Constant severe pain ^{53,54}	6
Pain frequency	
Intermittent (types A and C) ⁵⁸	32
Constant (types B, D, and E) ⁵⁸	53
Pain severity	
Mild-moderate (types A and B) ⁵⁸	18
Severe (types C, D, and E) ⁵⁸	67



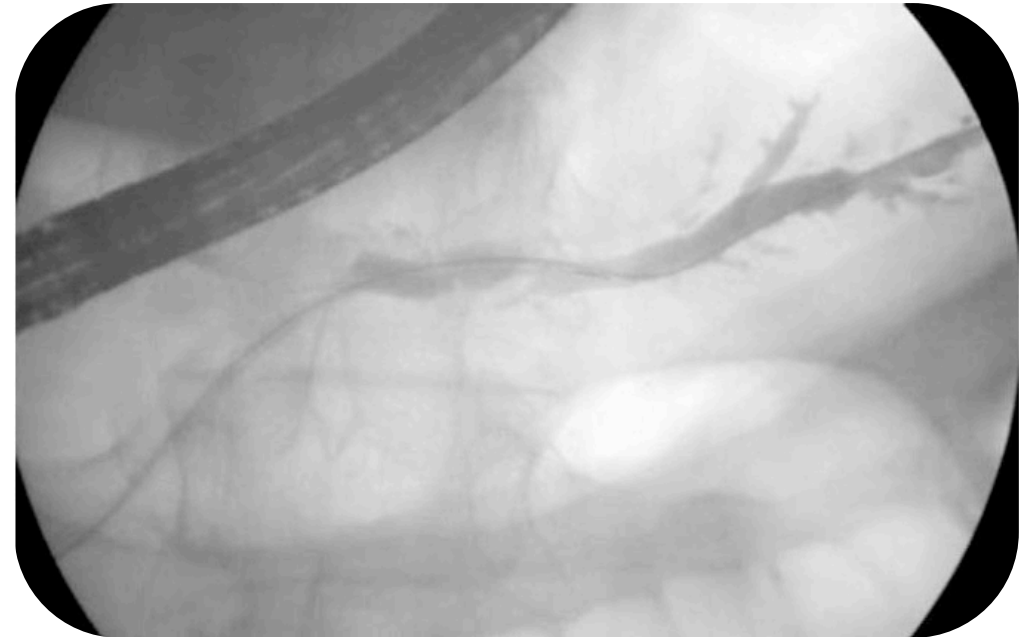
Non-invasive management

1. Cessation of alcohol consumption and smoking
 2. Medical analgesic treatment: WHO pain relief ladder, neuromodulators
 3. Celiac plexus block: selected patients
 4. Psychosocial interventions
- Pancreatic enzyme supplementation has no effect on pain

Endoscopic management

Aim: relieving main pancreatic duct outflow obstruction

Stricture

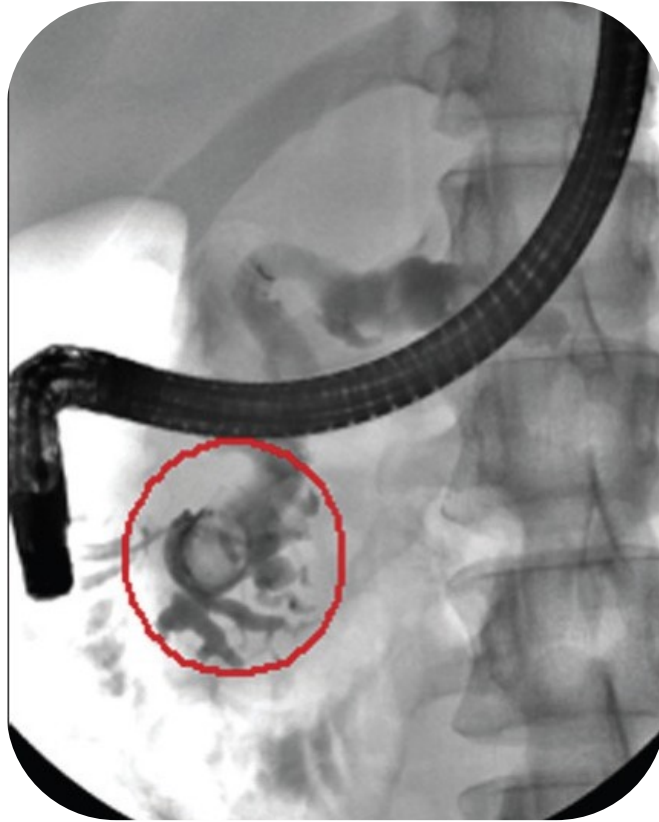


Definition: stricture with an upstream MD dilation ≥ 6 mm or stricture that prevent the outflow of contrast medium

Endoscopic management

Aim: relieving main pancreatic duct outflow obstruction

Intraductal
stones



Endoscopic management

Long-term outcome of endoscopic therapy

First author, year	n	Follow-up, months	Surgery	Ongoing endoscopic treatment	No further intervention
Binmoeller, 1995 [68]	93	58	26%	13%	61%
Rösch, 2002 [1]	1018	58	24%	16%	60%
Delhaye, 2004 [36]	56	173	21%	18%	61%
Tadenuma, 2005 [38]	70	75	1%	20%	79%
Inui, 2005 [45]	555	44	4%	–	–
Farnbacher, 2006 [37]	98	46	23%	18%	59%

No pancreatic surgery in 83%

Endoscopic management

Prognostic factors for long-term (>2 yr) pain relief:

- Location of stones in pancreatic head
- Absence of a ductal stricture
- Short disease duration
- Low frequency of pain attacks
- Discontinuation of alcohol / tobacco

Endoscopic stricture management

Long-term plastic stenting is the preferred first-line strategy

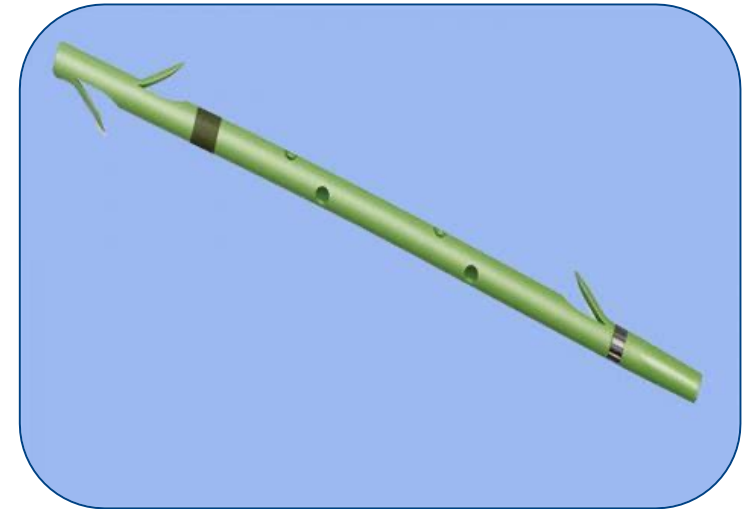
Treatment with plastic stents after balloon dilation

10Fr if possible, shortest possible length, *flexible*

Consider multiple stents

Long treatment period (>1yr)

Stent exchange on regular interval (3-6m) or on-demand



Endoscopic stricture management

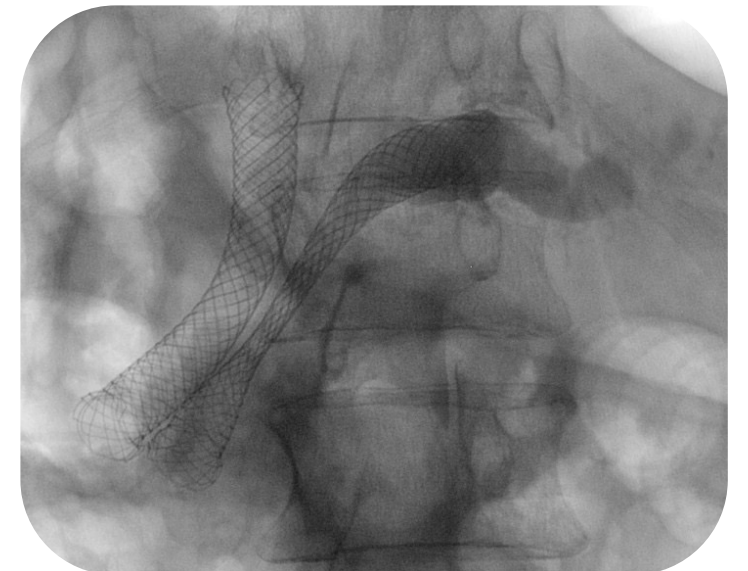
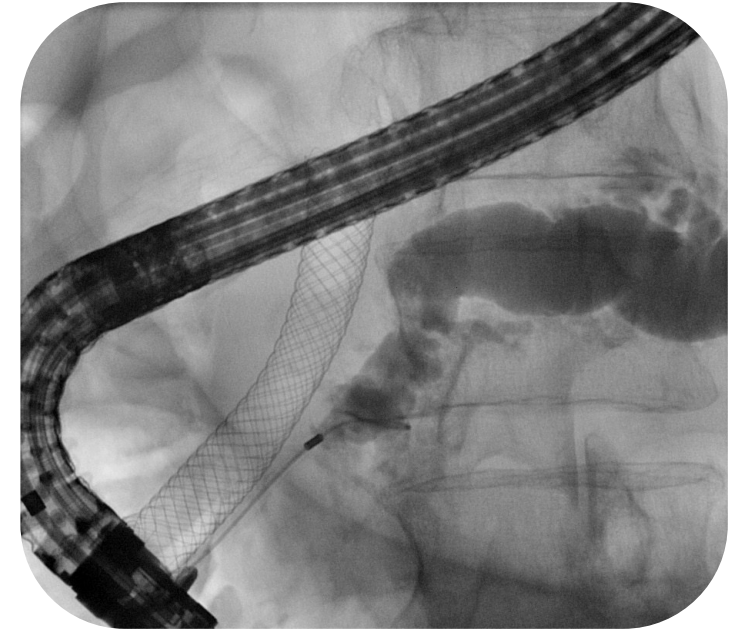
<i>Selected retrospective studies (follow-up ≥ 24 months) assessing results of single plastic stenting for symptomatic dominant MPD stricture related to chronic pancreatitis</i>				
Author, year (Ref)	No. of patients	Type of stent	Pain improvement after stent removal	Follow-up (months)
Binmoeller, 1995 (20)	93	Single (5–7–10 Fr)	65%	58
Smits, 1995 (21)	49	Single (10 Fr)	82%	34
Vitale, 2004 (22)	89	Single (5–7–10 Fr)	68%	43
Eleftheriadis, 2005 (23)	100	Single (8.5–10 Fr)	62%	69
Weber, 2007 (24)	17	Single (7–8.5–10–11.5 Fr)	83%	24

Endoscopic stricture management

Fully covered SEMS

Systemetic review 10 studies	163 patients
fcSEMS	6-10 mm
Stenting duration	3-6 m
Median FU after removal	19 m (range 1-80)
Stricture recurrence	5%
Adverse events	34.9%, incl: Migration 14% De novo stricture 7.4%

Biodegradable stents



Pancreatic stone management

Most guidelines include ESWL for stone fragmentation

Stone < 5 mm: primary endoscopic removal (-tomy/balloon or basket clearance)

Stone > 5 mm: first ESWL, followed by ERP if no complete clearance

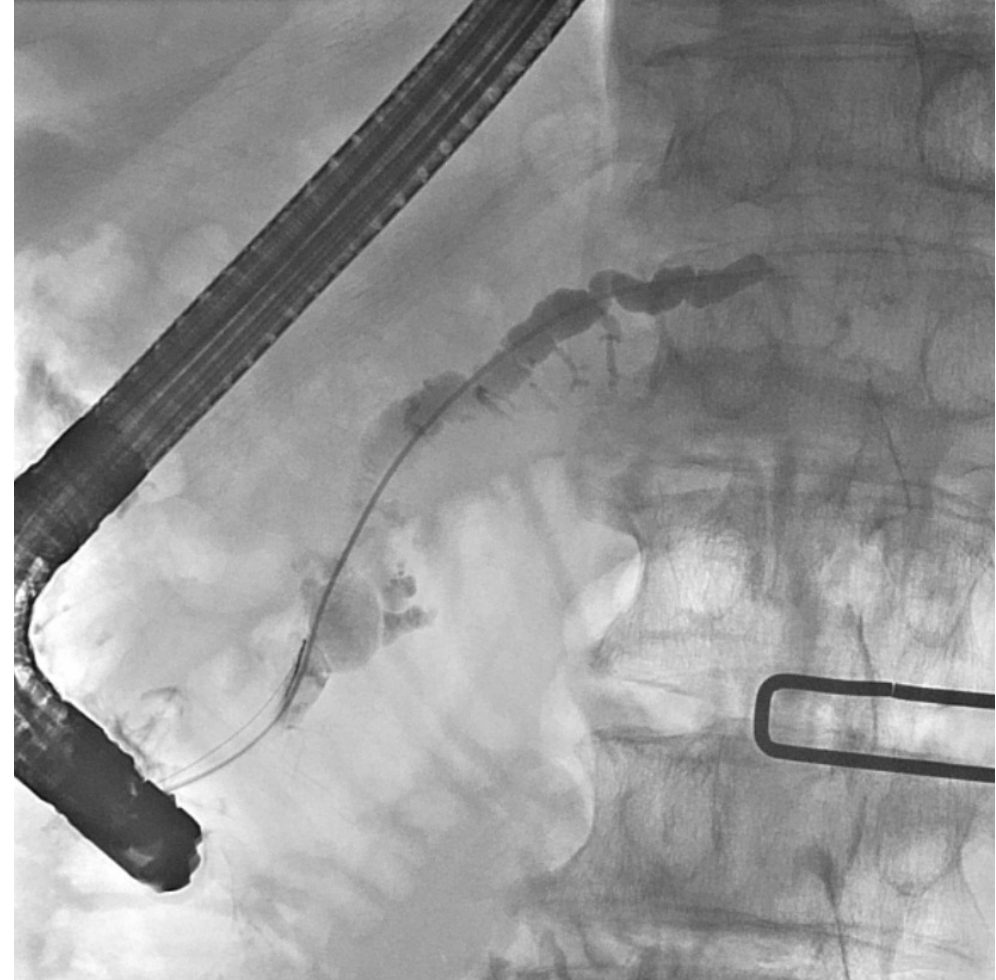


Meta-analysis 27 studies	3189 patients
Complete clearance	70%
Partial clearance	22%
FU	Approx 2 years
Absence / mild pain	53% / 33%
Adverse events	4.2% pancreatitis

Pancreatoscopy + laser



Pancreatoscopy + laser



Pancreatic stone management

10 studies: N=302, mean stone size 10.2 mm, most common in the head, short-term FU

	Electrohydraulic Lithotripsy (EHL)		Laser Lithotripsy (LL)		P value
	Pooled Rate (95 % CI)	Heterogeneity (I ²)	Pooled Rate (95 % CI)	Heterogeneity (I ²)	
Technical Success (%)	85.92 % (95 % CI 66.35 to 94.97) [6 studies, n = 124]	61.30	97.74% (95 % CI 92.42 to 99.35) [4 studies, n = 161]	0.00	0.0509
Clinical Success (%)	76.16 % (95 % CI 55.61 to 89.07) [5 studies, n = 44]	61.19	96.32% (95 % CI 82.88 to 99.30) [3 studies, n = 111]	48.68	0.1430
Single Lithotripsy Success (%)	46.18 % (95 % CI 20.96 to 73.52) [3 studies, n = 36]	69.67	60.49% (95 % CI 25.28 to 87.39) [3 studies, n = 111]	90.64	0.5573
Adverse Events (%)	10.24 % (95 % CI 4.60 to 21.26) [6 studies, n = 71]	0.00	7.09 % (95 % CI 3.59 to 13.54) [3 studies, n = 111]	0.00	0.4542

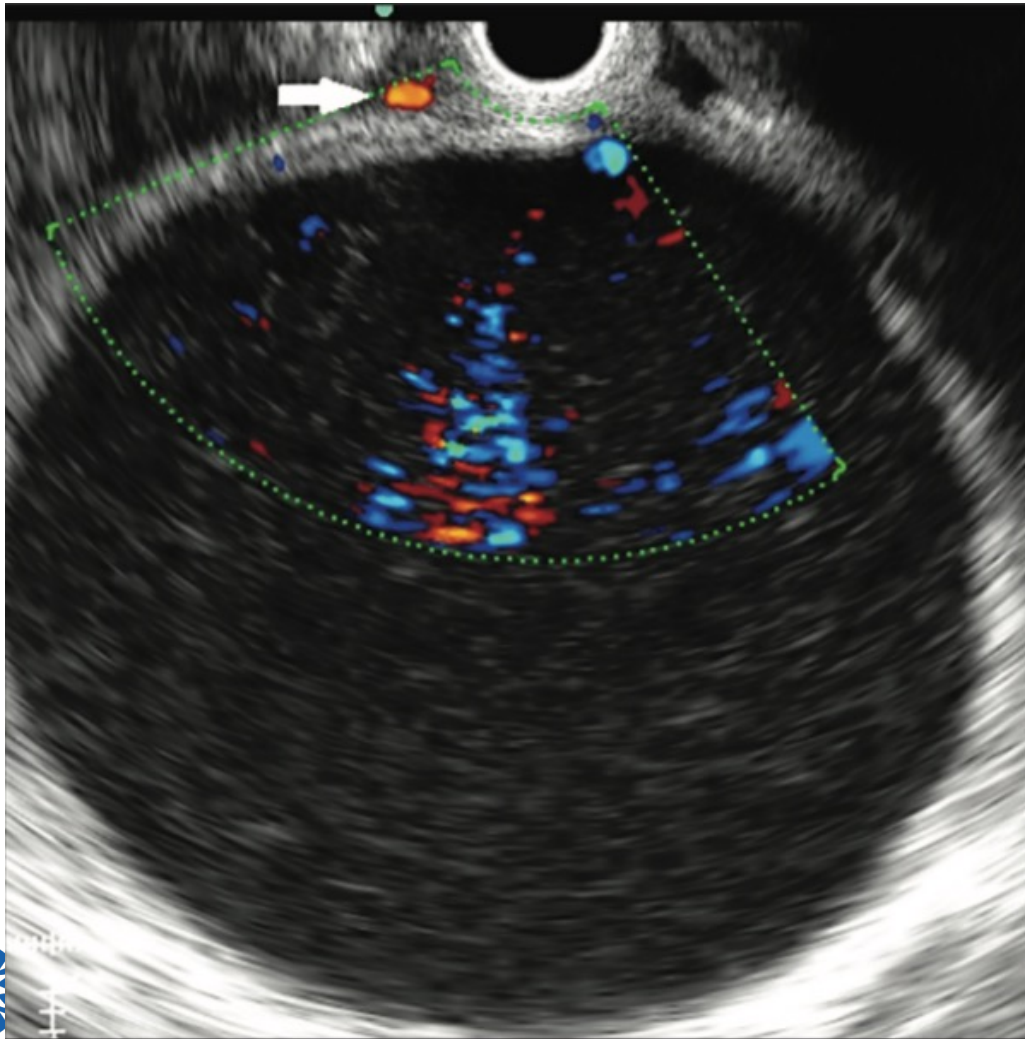
Techniek van transmurale drainage bij symptomatische vochtcollectie

plaatsing van multipele plastic pigtails

of

plaatsing Lumen Apposing Metal Stent (LAMS)

Endoscopische drainage



Therapeutische lineaire EUS
scoop

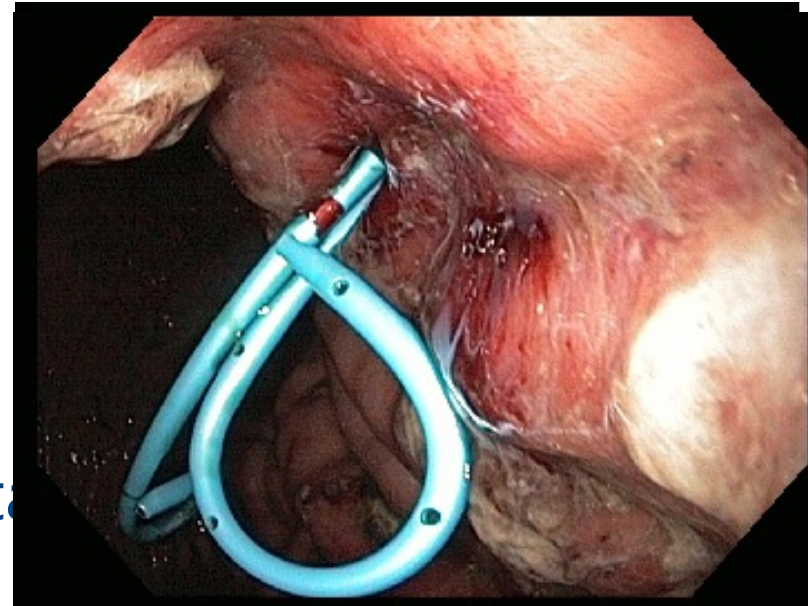
Dikte wand bepalen
• *max 1 cm voor LAMS*

Doppler



Basic (legacy?) approach EUS-guided drainage of a (peri)pancreatic collection

1. Access: 19G needle
2. Pass 0.035" wire into the cyst; cystotome
3. Dilate the tract to 6-8 (10)mm
4. Place (single or) multiple plastic pigtail

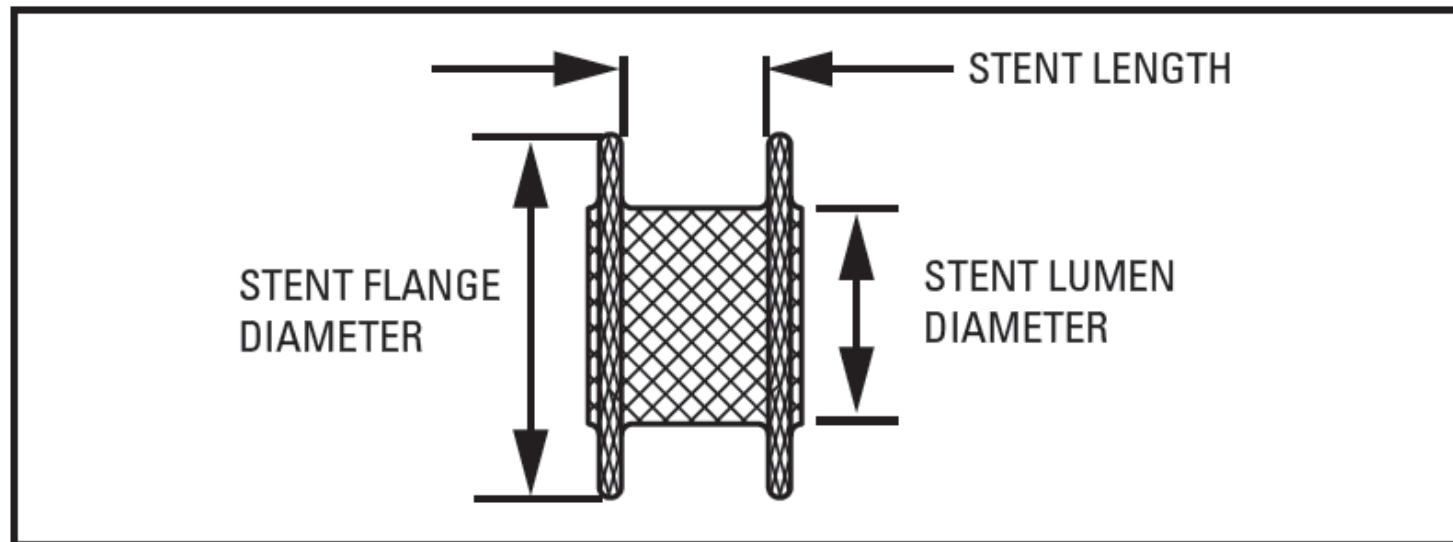


Modern approach EUS-guided drainage of a (peri)pancreatic collection



Electrocautery enhanced lumen apposing metal stents (LAMS)

Lumen diameter (mm)	Flange diameter (mm)	Saddle length (mm)
10	21	10
15	24	10
20	29	10



Endoscopy vs Surgery: lessons from RCTs

Cahen et al. NEJM 2007 / Gastro 2011

Inclusion: Symptomatic CP with obstruction MPD due to stenosis/stones + dilation > 5 mm
No enlargement head > 4 cm

Setting: Single-center

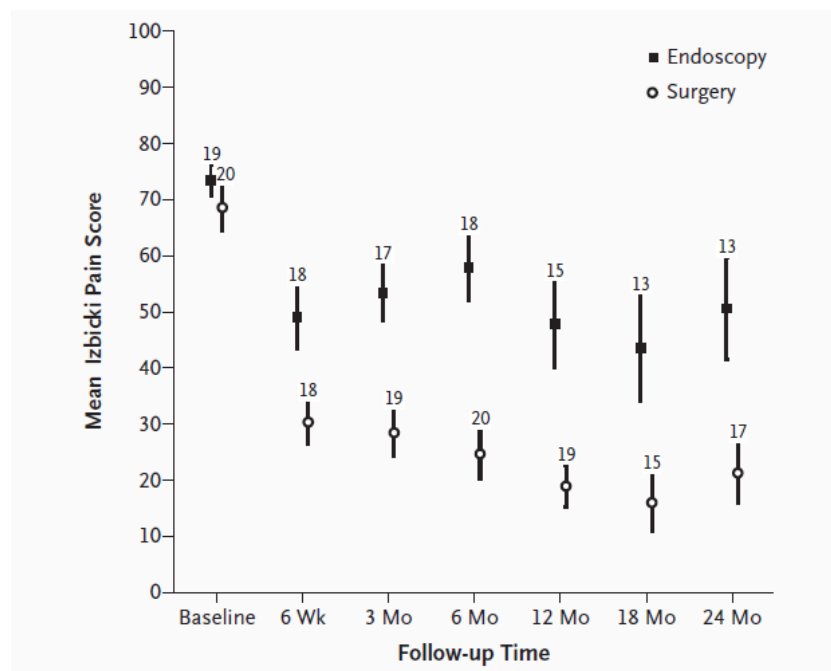
Endoscopy (N=19): Stenting 10Fr for strictures and ESWL with ERP for stones

Surgery (N=20): Lateral PJ / Frey

Endoscopy vs Surgery: lessons from RCTs

Cahen et al. NEJM 2007 / Gastro 2011

2 year FU

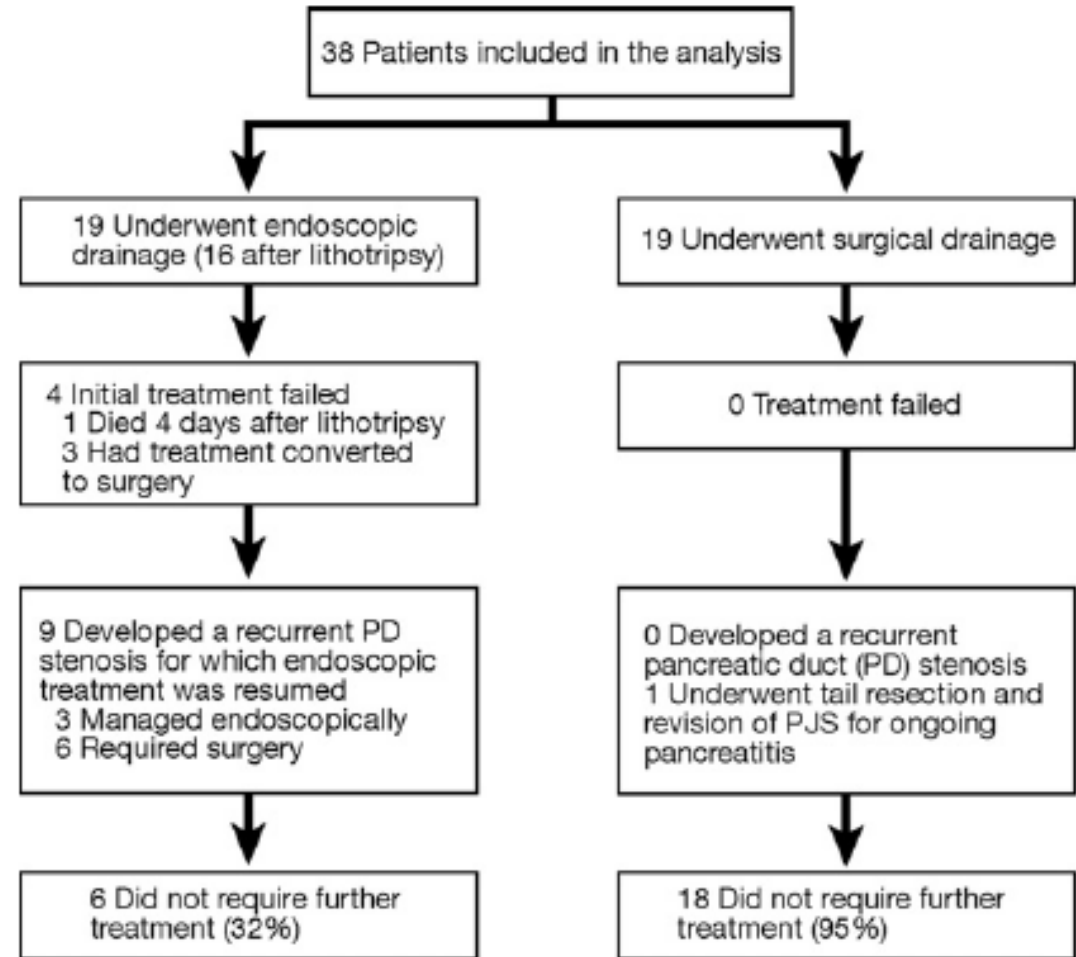


Variable	Endoscopy (N=19)	Surgery (N=20)	P Value
Izbicki pain score†	51±23	25±15	<0.001
Pain relief — no. (%)‡	6 (32)	15 (75)	0.007
Complete relief	3 (16)	8 (40)	
Partial relief	3 (16)	7 (35)	
No relief	13 (68)	5 (25)	
Conversion to surgery — no. (%)	4 (21)	NA	
Technical success — no. (%)	10 (53)	20 (100)	<0.001
Complications — no. (%)	11 (58)	7 (35)	0.15
Major	0	1 (5)	
Minor	11 (58)	6 (30)	
Death — no. (%)	1 (5)	0	0.49

Endoscopy vs Surgery: lessons from RCTs

Cahen et al. NEJM 2007 / Gastro 2011 5 year FU

Variable	Endoscopy (n = 16)	Surgery (n = 15)	P value
Follow-up (mo), mean (SD)	85 ± 14	92 ± 11	.13
Ongoing alcohol abuse, n (%)	0	3 (20)	
Izbicki pain score, mean (SD) ^a	39 ± 28	22 ± 31	.12
Pain relief, n (%) ^b	6 (38)	12 (80)	.042
Complete/partial pain relief	4/2 (25/13)	8/4 (53/27)	
No relief	10 (62)	3 (20)	
SF-36 quality-of-life scores ^d			
Physical health component	43 ± 11	48 ± 9	.23
Mental health component	46 ± 9	48 ± 10	.46



Endoscopy vs Surgery: lessons from RCTs

Cahen et al. NEJM 2007 / Gastro 2011 5 year FU

Discussion

Population with advanced disease: Large (10 mm) and multiple stones
and long-lasting pain: Long-term opioid dependence

Inferior endoscopic treatment: only 6m stenting

Endoscopy vs Surgery: lessons from RCTs

Issa et al. JAMA 2020

Inclusion: Symptomatic CP with obstruction MPD due to stenosis/stones + dilation > 5 mm
Recent start of opioids (<2m)

Setting: Multi-center

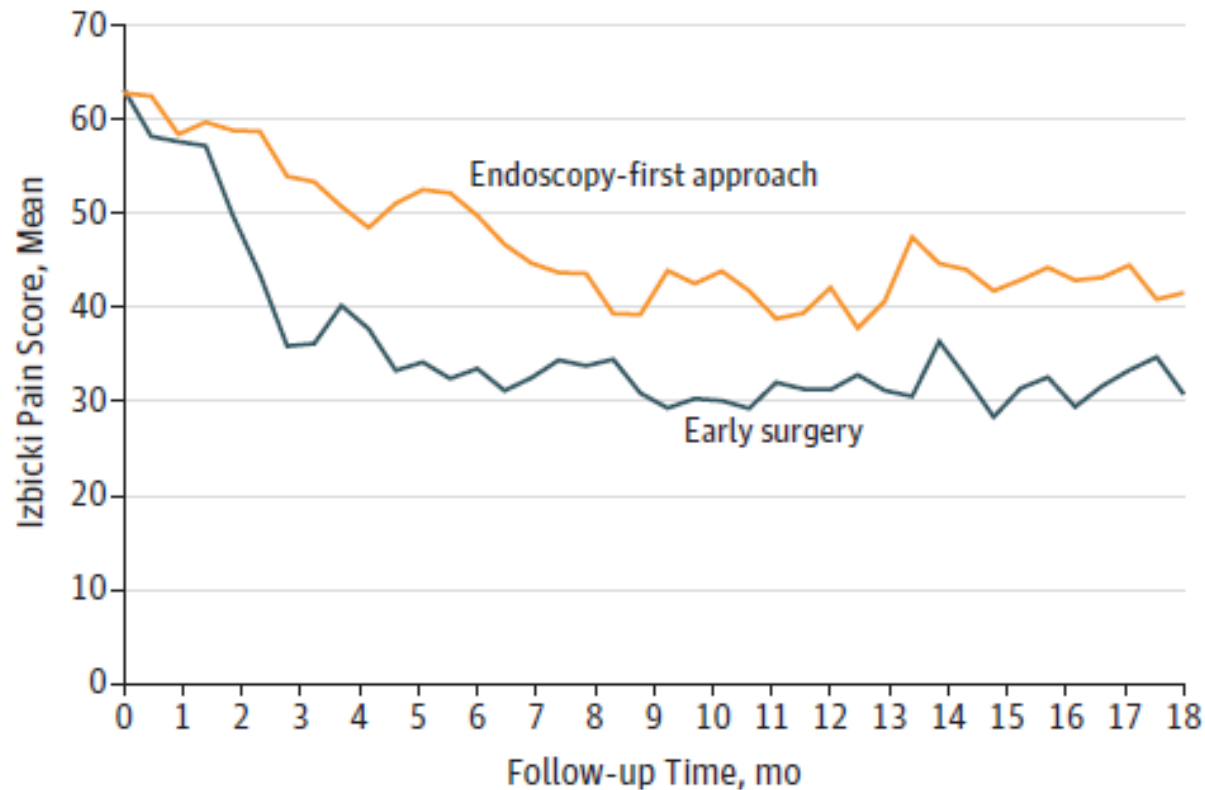
Endoscopy (N=44): Stone > 7 mm: 3xESWL + ERP
Stone < 7 mm: ERP
Stenting 10Fr for strictures with 3m exchange up to 1 yr

Early surgery (N=44): Head < 4cm: Lateral PJ
Head > 4cm: Frey or Beger

Endoscopy vs Surgery: lessons from RCTs

Issa et al. JAMA 2020

18m FU



Endoscopy: complete duct clearance 62%
surgery 30%

Early surgery: no re-operations

Similar AEs

Endoscopy vs Surgery: lessons from RCTs

Issa et al. JAMA 2020 18m FU

Discussion

Also patients with enlarged “inflammatory” head were included (50%)

Relatively low technical endoscopic success

Endoscopic duct clearance was associated with low pain scores

Improvement of endoscopic outcome by centralization and/or new techniques (pancreatoscopy + lithotripsy)?

Guidelines

ACG 2020: We recommend surgical intervention over endoscopic therapy in patients with obstructive CP for the long-term relief of pain if first-line endoscopic approaches to pancreatic drainage have been exhausted or unsuccessful (strong recommendation, moderate quality of evidence).

ESGE 2018:

RECOMMENDATION

ESGE suggests endoscopic therapy and/or extracorporeal shockwave lithotripsy (ESWL) as the first-line therapy for painful uncomplicated chronic pancreatitis (CP) with an obstructed main pancreatic duct (MPD) in the head/body of the pancreas. The clinical response should be evaluated at 6–8 weeks; if it appears unsatisfactory, the patient's case should be discussed again in a multidisciplinary team and surgical options should be considered. Weak recommendation, low quality evidence.

UEG 2017: Therefore, ET could be recommended as a first choice therapy in patients with obstructive CP and could serve as a bridge in situations, when surgical therapy is indicated and will follow eventually.

Biliary strictures

- > 4 weeks biliary obstruction

jaundice
elevated APh

- ERCP for biliary decompression by stent placement
- In case of fibrosis (in stead of transient inflammatory compression)
 - 1 year multiple plastic stents or FC SEMS

Mee naar huis boodschappen

Endoscopische opties voor pijn bij chronische pancreatitis nemen toe

Individuele situatie / anatomie bepaalt sterk de therapeutische opties

Bij voorkeur multidisciplinair beoordelen

Aanbevolen literatuur

Endoscopic treatment of chronic pancreatitis: European Society of Gastrointestinal Endoscopy (ESGE) Guideline – Updated August 2018



Authors

Jean-Marc Dumonceau¹, Myriam Delhaye², Andrea Tringali^{3,4}, Marianna Arvanitakis², Andres Sanchez-Yague⁵, Thierry Vaysse⁶, Guruprasad P. Aithal⁷, Andrea Anderloni⁸, Marco Bruno⁹, Paolo Cantú¹⁰, Jacques Devière², Juan Enrique Domínguez-Muñoz¹¹, Selma Lekkerkerker¹², Jan-Werner Poley⁹, Mohan Ramchandani¹³, Nageshwar Reddy¹³, Jeanin E. van Hooft¹²