

# GUT CENTRE

13 - 16 August 2024

Alice Springs Hospital

The epicentre of gastrointestinal and  
liver education in Australia



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# Surgical Treatment of Chronic Pancreatitis

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Endoscopist

Monash Health and St Vincent's Melb.

# Typical surgical presentations of CP

- Pancreatic duct strictures associated with chronic pain
- Relapsing acute pancreatitis with ductal abnormalities
- Abnormal pancreas and pain but no duct dilatation
- Biliary strictures (usually able to be dealt with endoscopically)
- Gastric outlet obstruction and chronic pancreatitis (groove pancreatitis)

# Diagnostic Dilemmas

- The diagnosis of chronic pancreatitis may be well established and long standing
- Alternative presentations:
  - Relapsing or worsening symptoms - is it just chronic pancreatitis or superimposed malignancy
  - Completely asymptomatic but grossly abnormal gland
  - Mass forming pancreatitis (Autoimmune)

# Hx, Examination, Ix

- Hx of recurrent attacks/hospitalisations with pancreatitis.
- Hx of alcohol and smoking (key modifiable risk factors).
- Exocrine and Endocrine Function? (Family history of T2DM)
- Age - Inherited cases usually present early (Rx auto-islet transplantation)

# Hx, Examination, Ix

- Associated symptoms eg gastric outlet obstruction
- Relevant surgical hx: Response to previous endoscopic duct drainage.
- Examination: Jaundice, cachexia
- Bloods: LFTs, Ca19-9, IgG4.

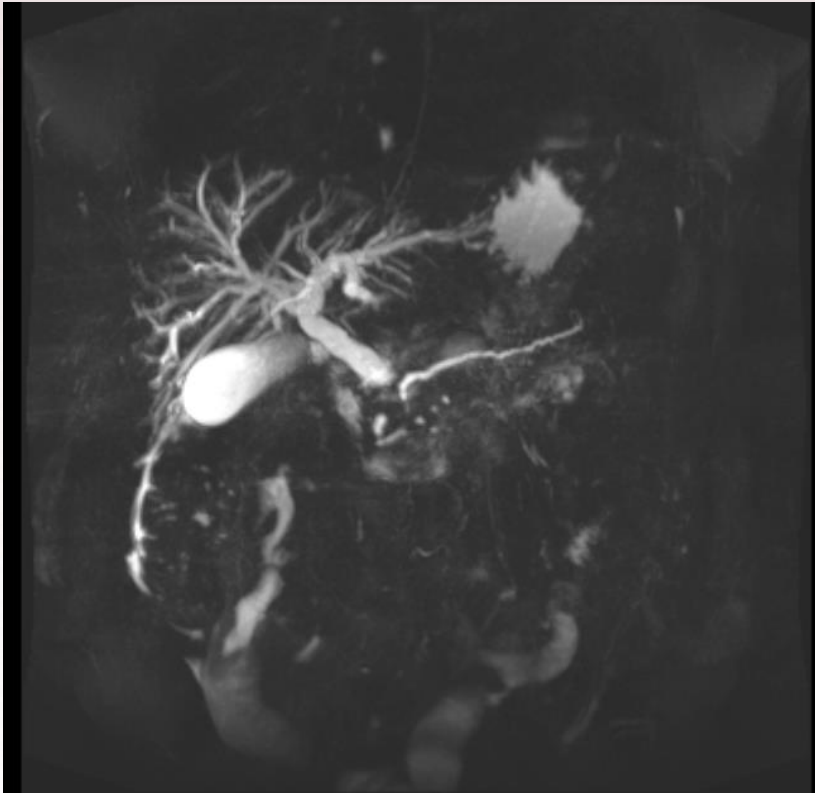
- Pancreatic protocol CT.
  - Signs of chronic pancreatitis (pancreatic atrophy, dilated ectatic duct, calcification)
  - Patency of major venous structures (SMV, Splenic vein, Portal vein)
  - Presence of varices
  - Pseudocysts
- MRI Pancreas
  - Degree of pancreatic duct dilation
  - Presence of intraductal stones

# Ix – Endoscopic Ultrasound

- Useful for identifying malignancy - biopsy suspicious masses.
- If heavily calcified, images often poor
- Very useful for differentiating Autoimmune pancreatitis from pancreatic cancer (especially if using sophisticated techniques eg molecular analysis)



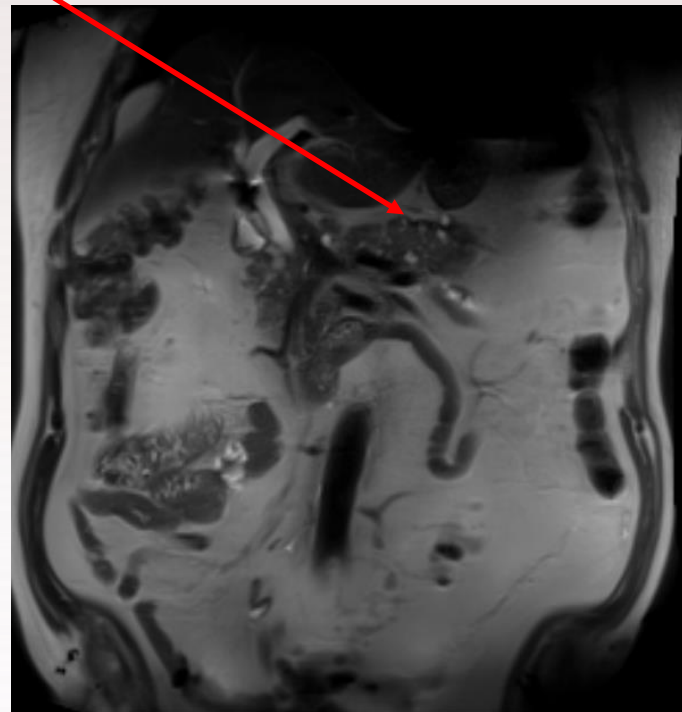
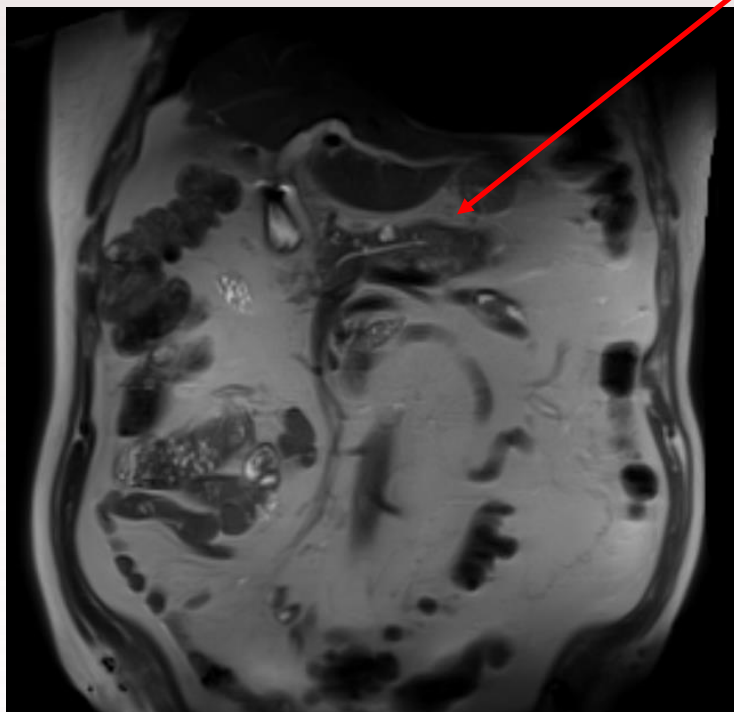
# Pancreatic mass and jaundice



- Biliary Stent
  - EUS FNA – no malignancy
  - Considered IgG4 disease
  - Steroids
  - Removed stent
  - Recurrent Jaundice
- 
- Whipples

# Conversely... Pancreatic mass and pancreatitis

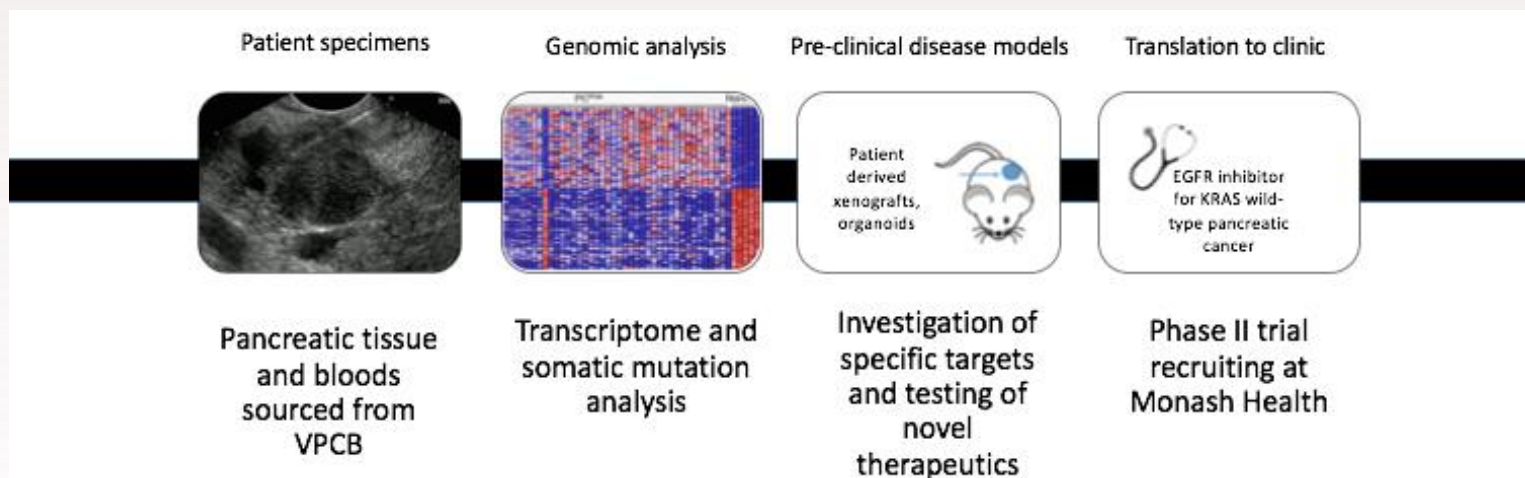
Pancreatic Mass



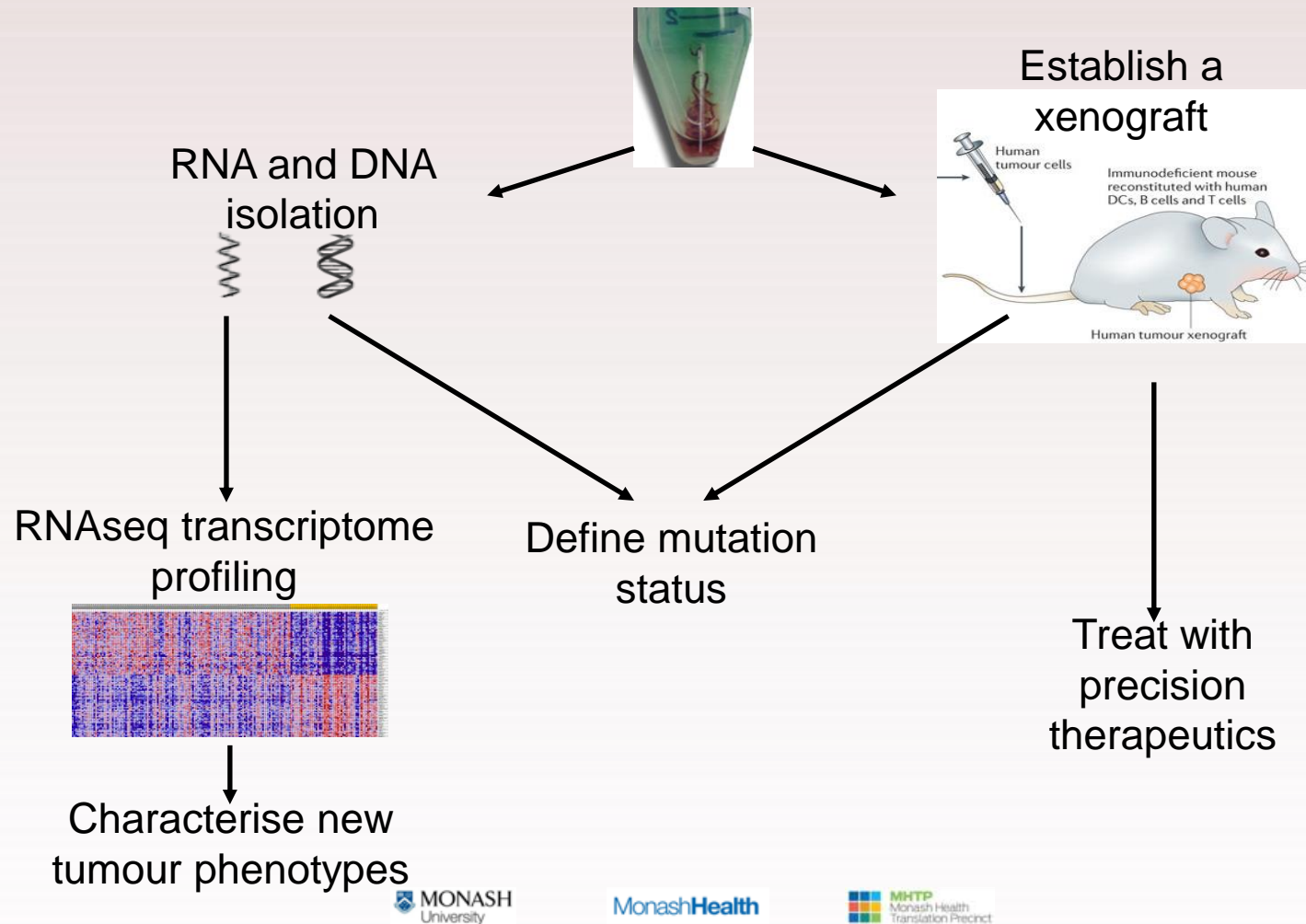
Is this another case of autoimmune pancreatitis?

# Integration of genomic analysis into patient care: research pipeline

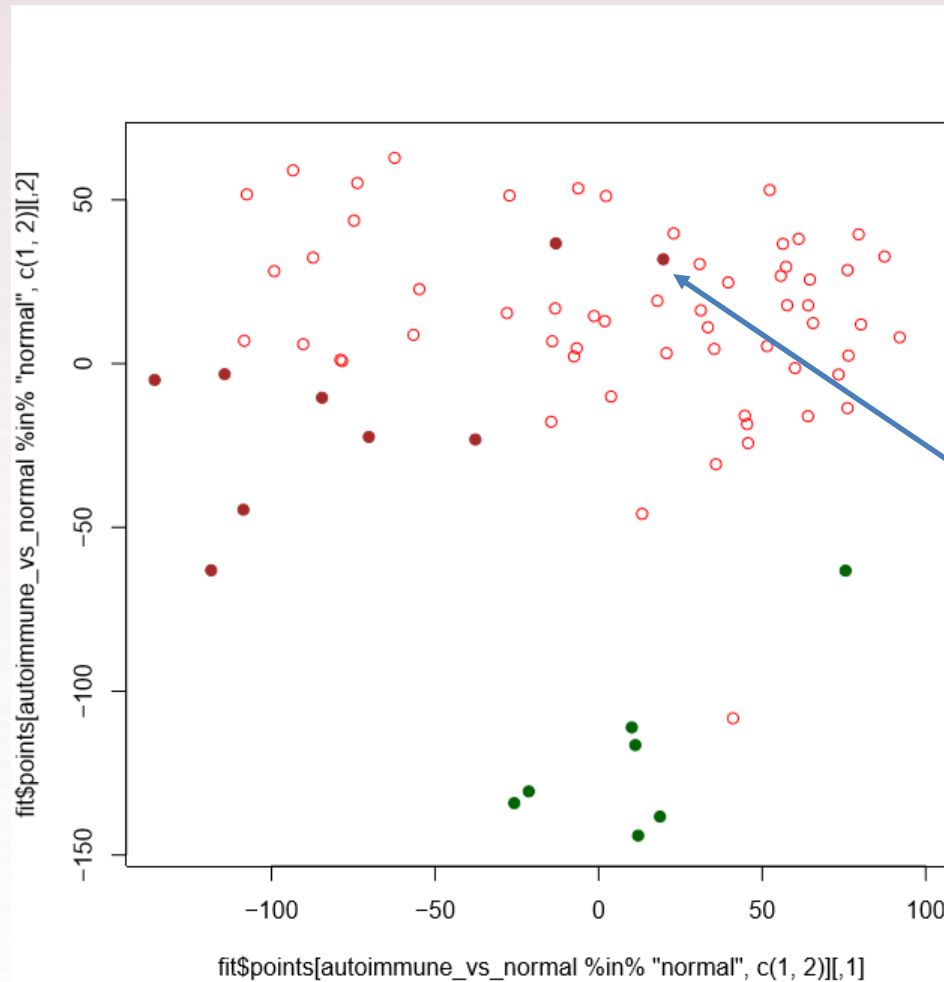
- Pancreaticobiliary Cancer Biobank
  - valuable resource for researchers, clinicians and patients. Links to clinical registries and clinical trials.



# Integration of genomic analysis into patient care: research pipeline

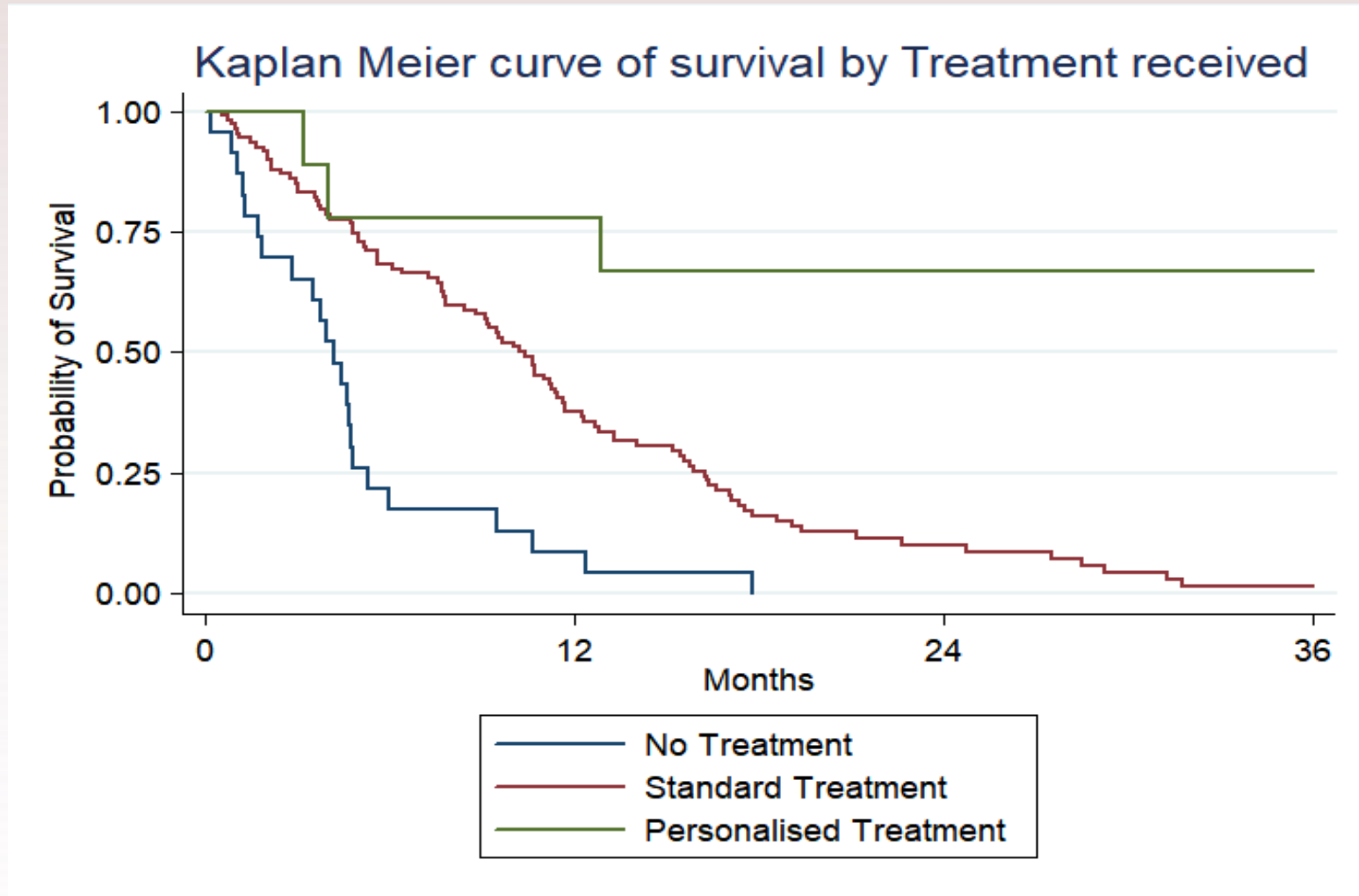


# Transcriptional Profile of PDAC vs Autoimmune pancreatitis



This was the patient  
who I thought had  
autoimmune  
pancreatitis but in fact  
had cancer

# Using EUS to sequence Pancreatic Ca



# Principals of Surgery for CP

- Alleviation of symptoms (we not dealing with cancer)
- Maintenance of exocrine and endocrine function
- Minimisation of surgical morbidity
- Reduction long term cancer risk?

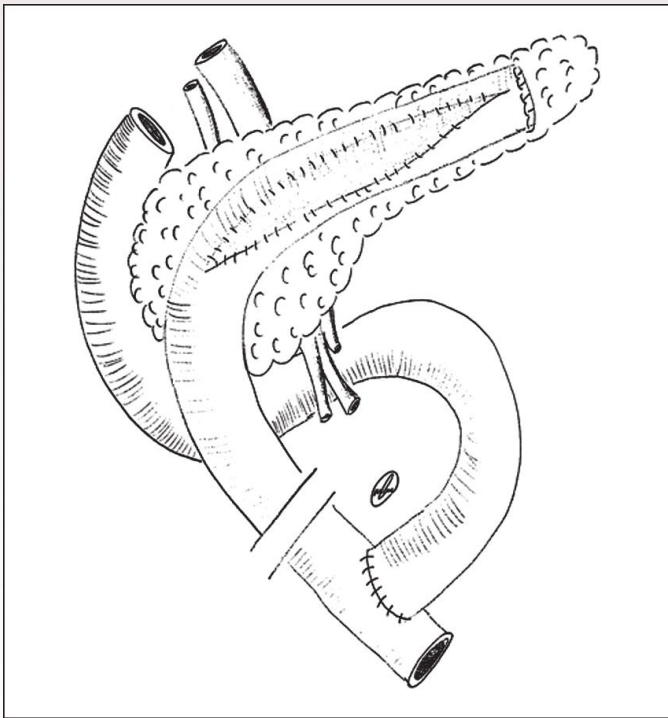
# Surgical Options

- Drainage procedures
  - Lateral pancreaticojejunostomy (Modified Peustow)
  - Biliary bypass
  - Gastrojejunostomy
- Combined drainage + resection
  - **Frey's procedure (DPPHR)**
  - Berger's procedure (division of pancreas above PV)
- Resectional procedures
  - Pancreaticoduodenectomy
  - Distal Pancreatectomy
  - Total pancreatectomy
  - Total pancreatectomy and auto islet transplant?



# Evolution of techniques for CP

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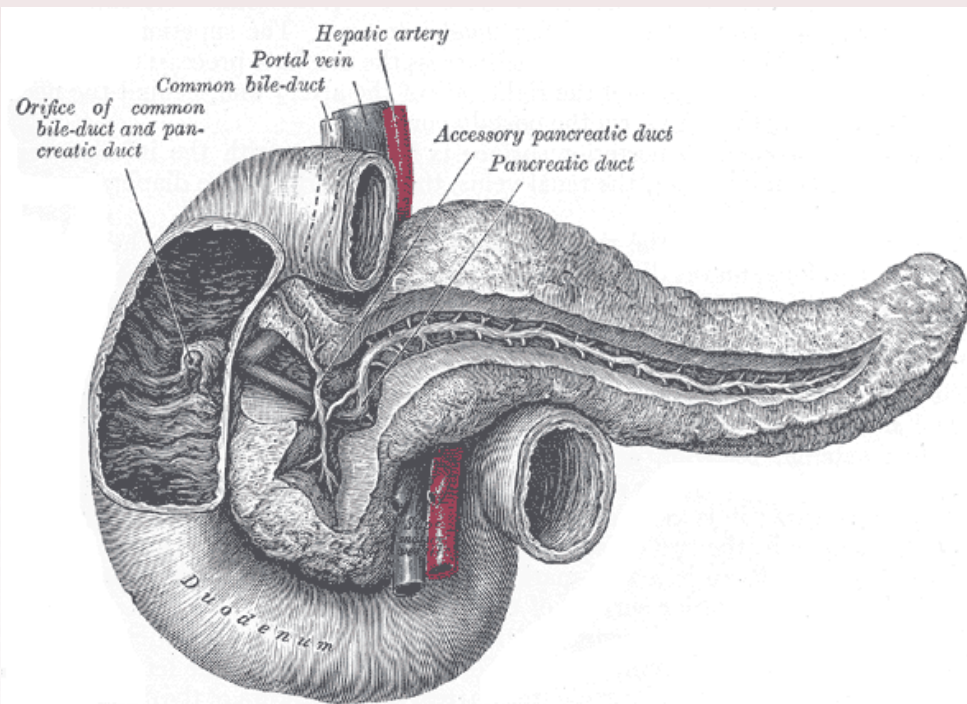
## Drainage procedures

1958 - Puestow and Gillesby

1960 - Partington Rochelle

# Resection and Drainage

## Frey Procedure - 1985



# RCT of Surgery vs Endoscopy

*The NEW ENGLAND JOURNAL of MEDICINE*

ORIGINAL ARTICLE

## Endoscopic versus Surgical Drainage of the Pancreatic Duct in Chronic Pancreatitis

Djuna L. Cahen, M.D., Dirk J. Gouma, M.D., Ph.D., Yung Nio, M.D.,  
Erik A. J. Rauws, M.D., Ph.D., Marja A. Boermeester, M.D., Ph.D.,  
Olivier R. Busch, M.D., Ph.D., Jaap Stoker, M.D., Ph.D., Johan S. Laméris, M.D., Ph.D.,  
Marcel G.W. Dijkgraaf, Ph.D., Kees Huibregtse, M.D., Ph.D.,  
and Marco J. Bruno, M.D., Ph.D.

2007 and 2011

39 patients randomised to – LPJ vs Endoscopy

Surgery superior: pain control, QoL, no of procedures

# RCT of Surgery vs Endoscopy



**QUESTION** For patients with painful chronic pancreatitis, is early surgery more effective than the endoscopy-first approach in addressing pain reduction?

**CONCLUSION** This randomized clinical trial found that early surgery resulted in less pain over 18 months.

## POPULATION

67 Men  
21 Women



Patients with chronic pancreatitis and dilated main pancreatic duct who started opioids for pain

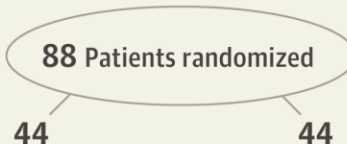
Mean age: 52 years

## LOCATIONS

30 Hospitals  
in the Netherlands



## INTERVENTION



**Early surgery**  
Pancreatic drainage surgery within 6 wk

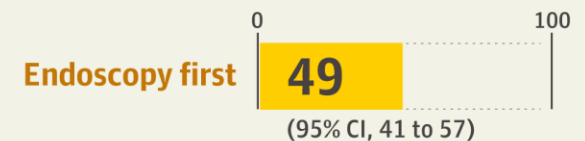
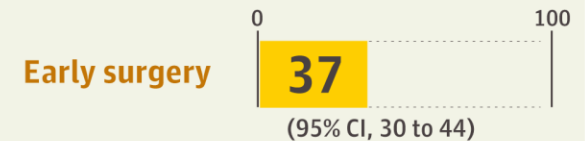
**Endoscopy first**  
Medical treatment, endoscopy if needed, surgery if needed

## PRIMARY OUTCOME

Pain measured on Izbicki pain scale through 18 months (scale range, 0-100 [increasing score indicates more pain severity]), reported as mean area under the curve (AUC)

## FINDINGS

Mean AUC for pain score



The between-group difference was significant:  
**-12 points** (95% CI, -22 to -2);  $P = .02$

© AMA

Issa Y, Kempeneers MA, Bruno MJ, et al; the Dutch Pancreatitis Study Group. Effect of early surgery vs endoscopy-first approach on pain in patients with chronic pancreatitis: the ESCAPE randomized clinical trial [published January 21, 2020]. *JAMA*. doi:10.1001/jama.2019.20967

24 patients had LPJ

15 patients had DPPHR, 1 PD, 1 Distal, 3 refused



# Duodenal preserving panc head resection vs PD

## Partial pancreatoduodenectomy versus duodenum-preserving pancreatic head resection in chronic pancreatitis: the multicentre, randomised, controlled, double-blind ChroPac trial



*Markus K Diener\*, Felix J Hüttner\*, Meinhard Kieser, Phillip Knebel, Colette Dörr-Harim, Marius Distler, Robert Grützmann, Uwe A Wittel, Rebekka Schirren, Hans-Michael Hau, Axel Kleespies, Claus-Dieter Heidecke, Ales Tomazic, Christopher M Halloran, Torsten J Wilhelm, Marcus Bahra, Tobias Beckurts, Thomas Börner, Matthias Glanemann, Ulrich Steger, Frank Treitschke, Ludger Staib, Karsten Thelen, Thomas Bruckner, André L Mihaljevic, Jens Werner, Alexis Ulrich, Thilo Hackert, Markus W Böhler, for the ChroPac Trial Group†*

Lancet 2017

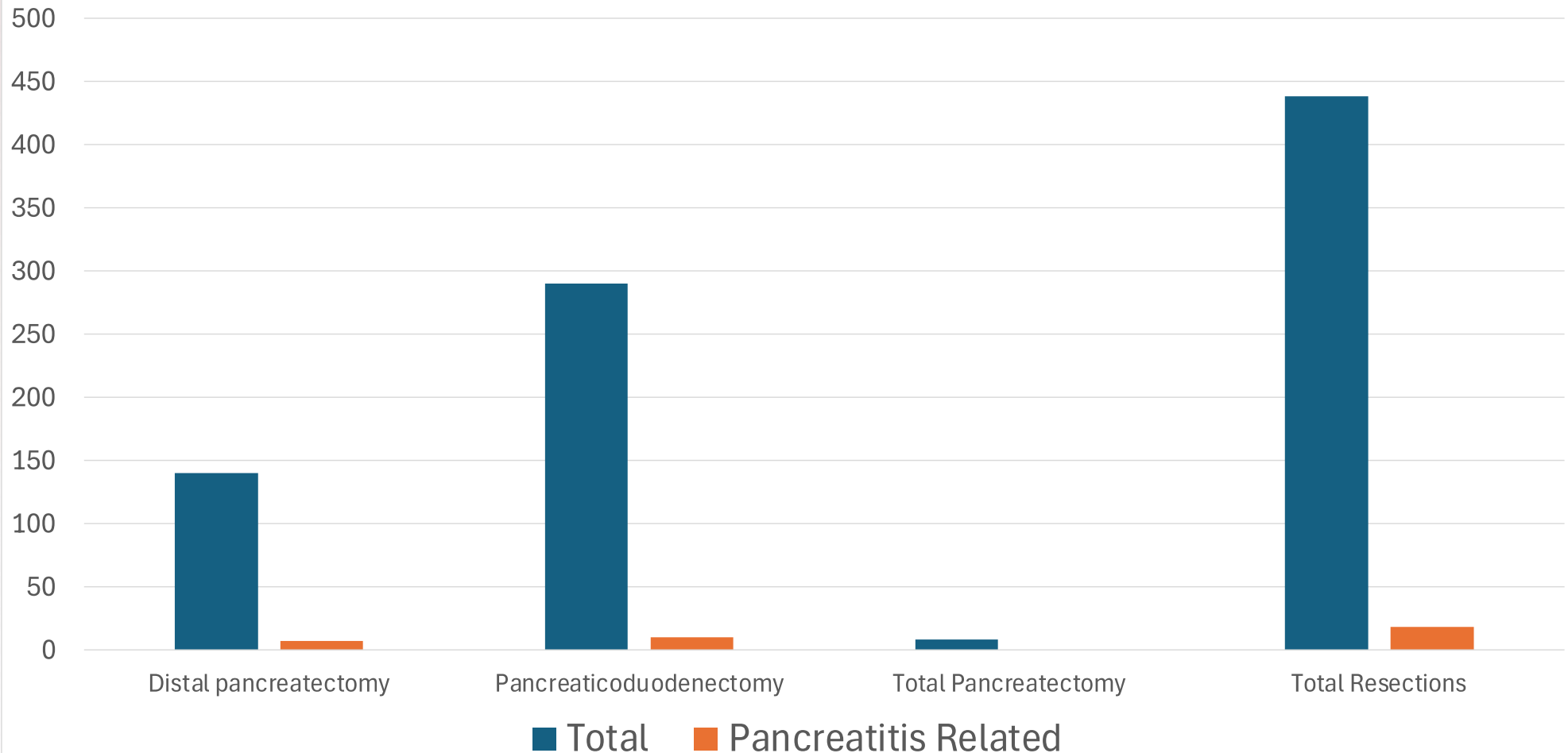
250 patient randomized

No difference in QoL, Adverse events

Higher reoperation in the DPRHR

# How common is surgery for CP?

Pancreatic Resections at Monash Health Since 2011



# Surgery for CP at Monash since 2011

- Drainage procedures
  - 20 Lateral pancreaticojejunostomy
    - With or without biliary and gastric bypass
- Resectional surgery
  - 10 Pancreaticoduodenectomy
  - 7 Distal pancreatectomy
- Combined drainage and resection
  - 2 Frey's procedures (2024)
- 1 Gastrojejunostomy for gastric outlet obstruction (groove pancreatitis)

# Drainage procedures – 20 LPJ

- 9 Alcoholic pancreatitis with dilated ducts
- 4 Idiopathic pancreatitis
- 3 Calcific pancreatitis
- 2 for divisum associated with recurrent pancreatitis
- 1 Recurrent pancreatitis secondary to stone and stricture
- 1 for SCA causing pancreatic duct obstruction



# Drainage procedures – 20 LPJ

- 12 good (to reasonable) long term pain relief
- 2 died or other illnesses within 2 years
- 1 lost to follow up
- 2 required further stenting of MPD at ampulla for recurrent pain
- 2 have had recurrent severe pain – no further intervention
- 1 had Whipple for recurrent pain

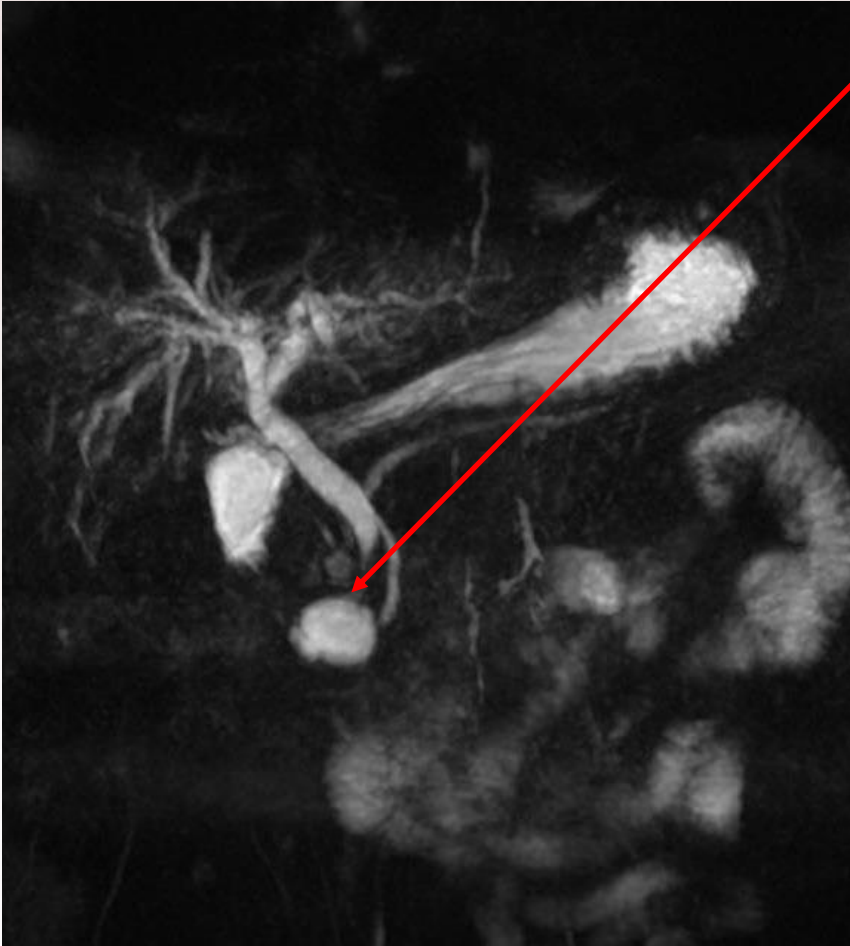
# Resectional procedures – PD

- 5 groove pancreatitis
- 4 idiopathic pancreatitis (one with obstructive jaundice)
  - Some had uncertainty about possible malignancy
- 1 pancreatic mass – proved to be IgG4 disease
  
- 8 had excellent outcomes
- 1 required LPJ to remnant pancreas – then very well
- 1 required completion total (already on insulin and recurrent pancreatitis)

# Groove Pancreatitis

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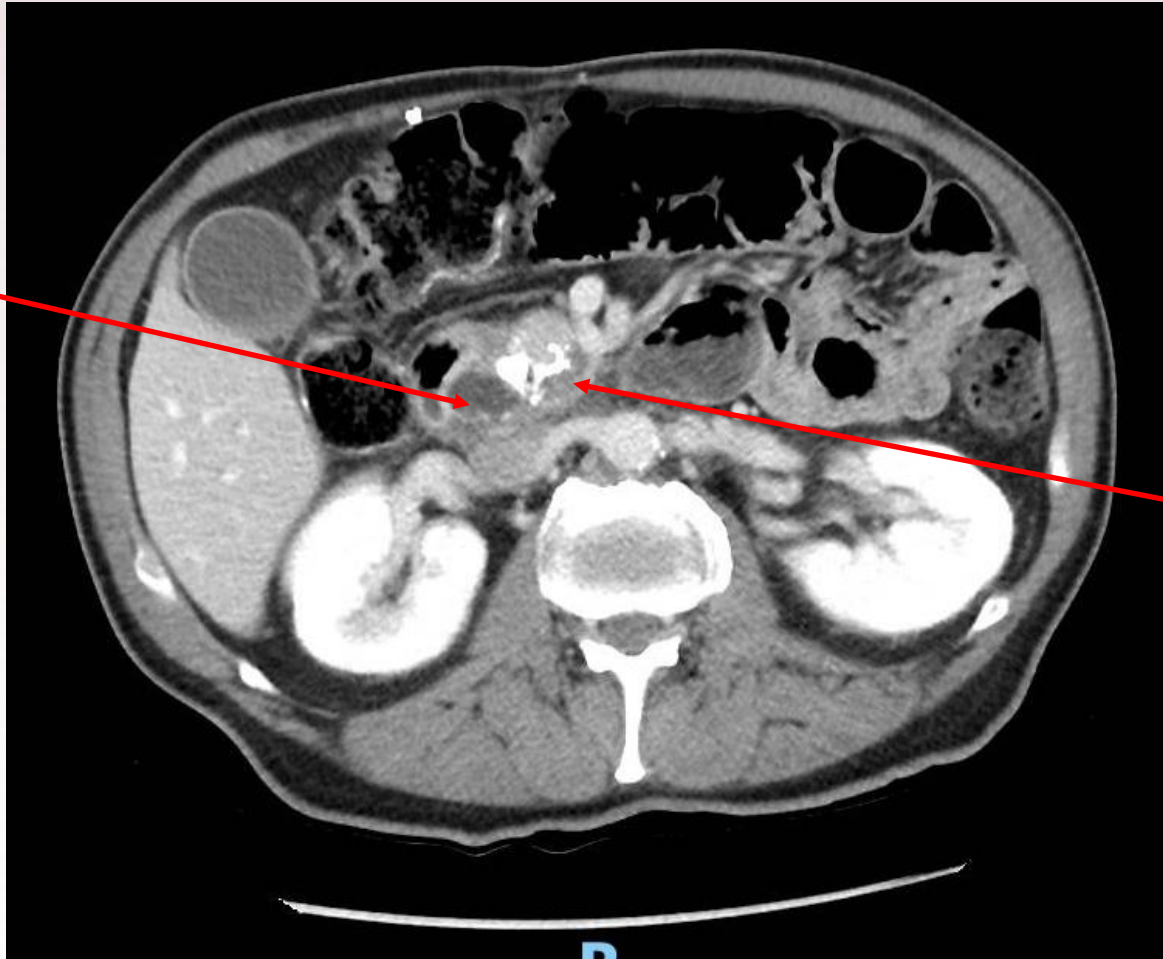
Cystic change in the “groove”



# Groove Pancreatitis

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Cystic change



Calcification

# Groove Pancreatitis

Clinical symptoms	Total (N = 1108) N (%)
More than 1 symptom	502 (45.3)
Abdominal pain	870 (78.5)
Weight loss	517 (46.7)
Nausea/vomiting	396 (35.7)
Episodes of acute pancreatitis	340 (30.7)
Jaundice	175 (15.8)
Steatorrhea	116 (10.4)
Exocrine insufficiency	79 (7.1)
No clinical symptoms	39 (3.5)

## Surgical treatment

Pancreaticoduodenectomy – 79%

Bypass – 11.9%

Other surgery - 8.9%

Ukegjini et al BJS Open 2023 Vol 7 no 5

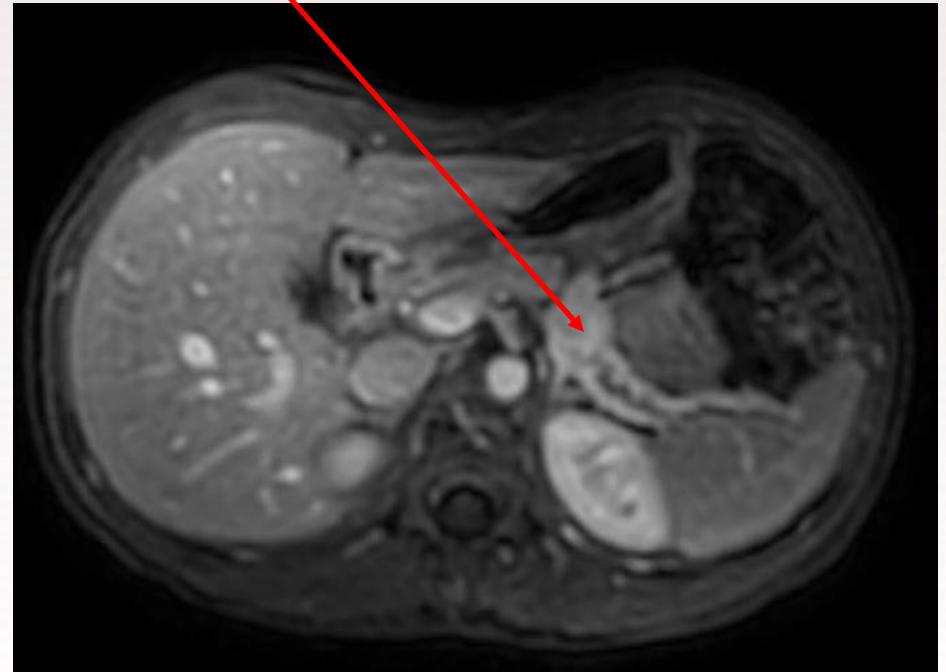
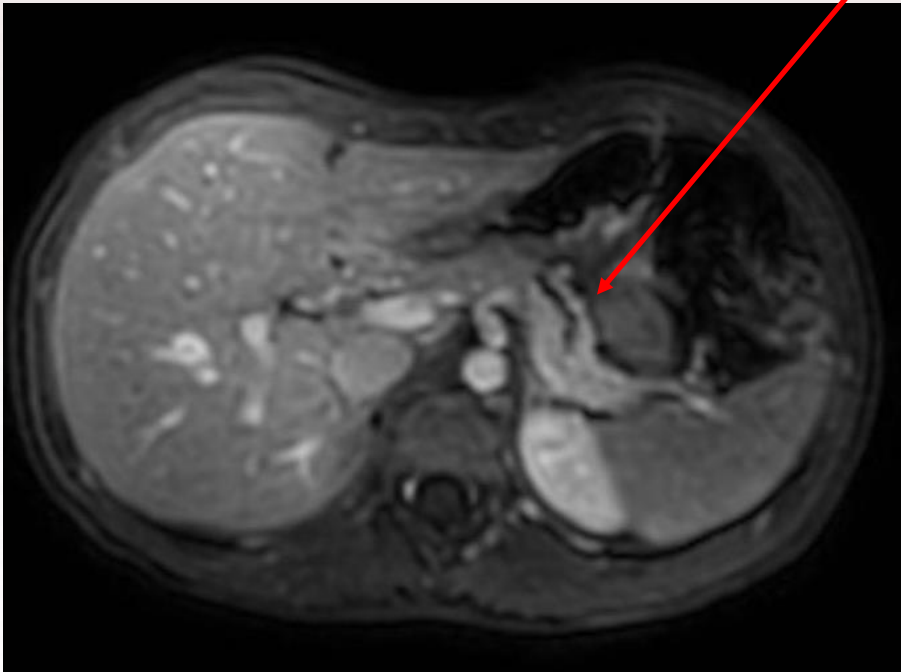
# Resectional procedures – Distal Panc

- 2 solid pancreatic masses - both proved to be IgG4!
- 2 idiopathic pancreatitis (1 previous Whipple)
- 1 cystic mass – Pseudocyst
- 1 Haemosuccus pancreaticus
- 1 Post traumatic pancreatic duct stricture

# Chronic Pain post pancreatic duct injury

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Dilated pancreatic duct





# Haemosuccus panceaticus

30 YO woman with initially occult  
GI bleeding

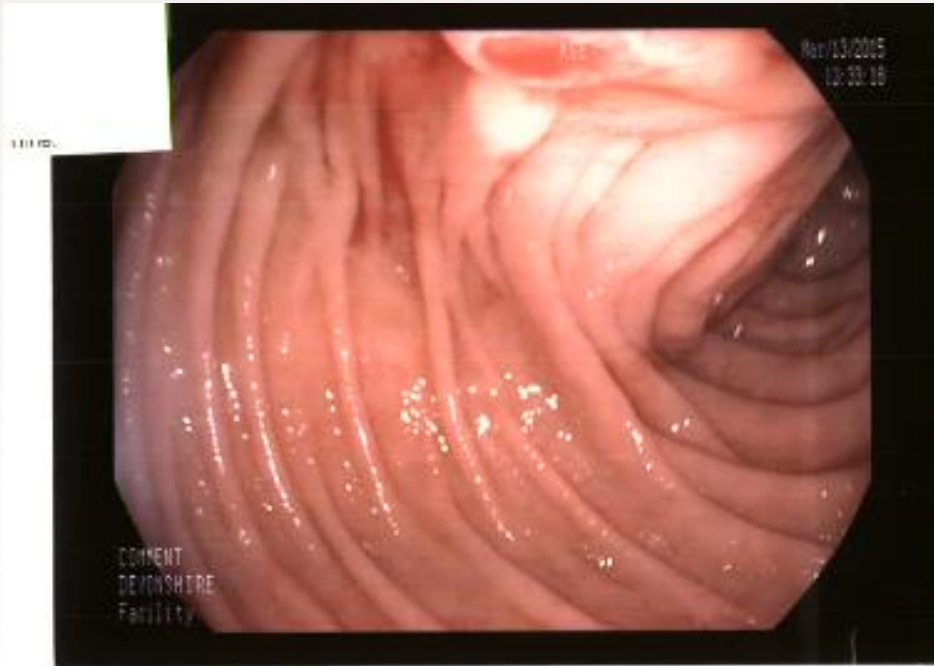
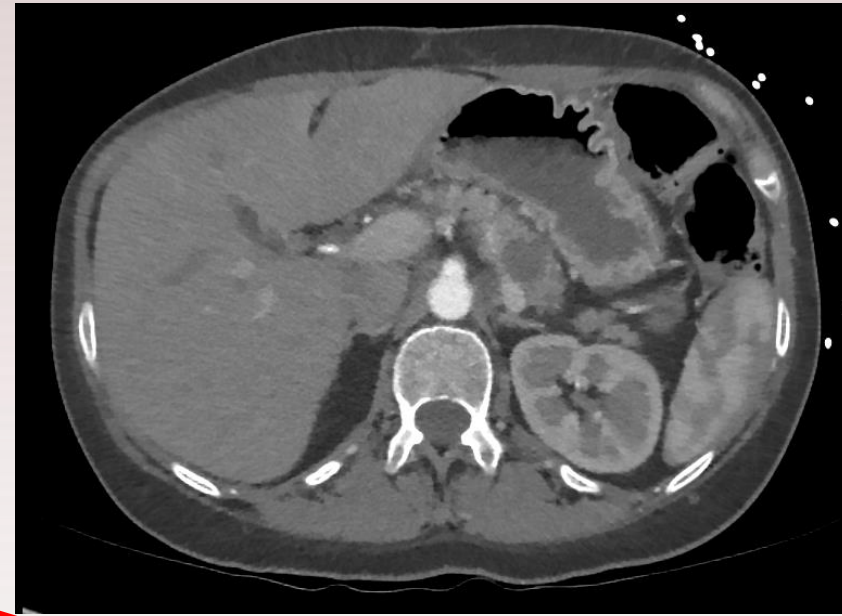




Figure 3a



Figure 3b



Figure 3c



Figure 3d



# Summary

- Surgery remains an important option in patients with chronic pancreatitis
- There is still some debate about the nature of the surgical intervention
- Prevention is better than cure