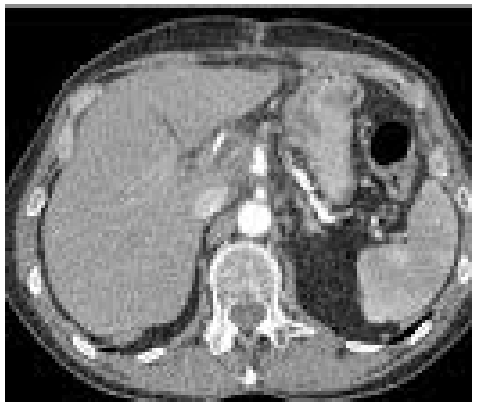
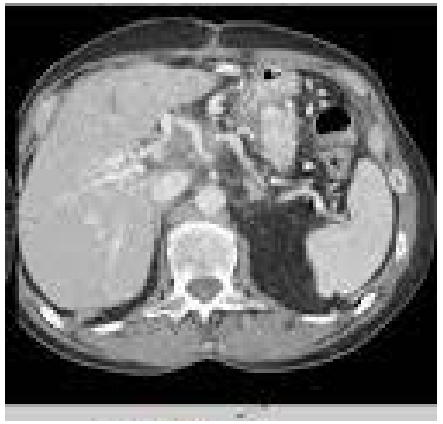
Double Bypass Surgery
vs
Endotherapy for Irresectable Pancreatic Cancer





Jones AO Omoshoro-Jones

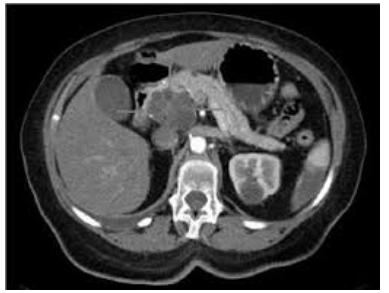
General & Hepatopancreatobiliary Surgery

Chris Hani-Baragwanath Academic Hospital

Faculty of Health Sciences, School of Clinical Medicine

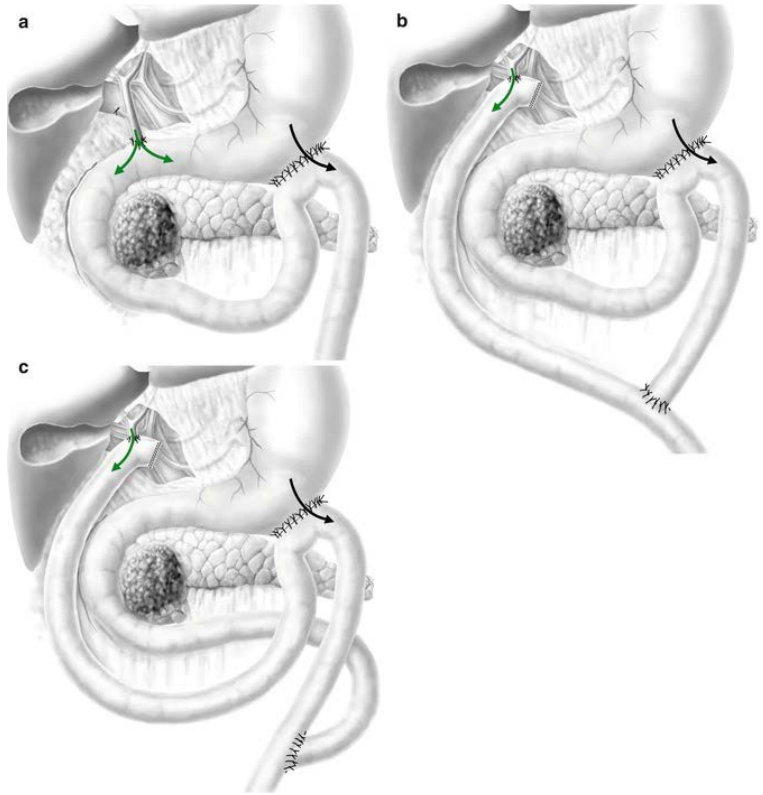
University of the Witwatersrand

Introduction

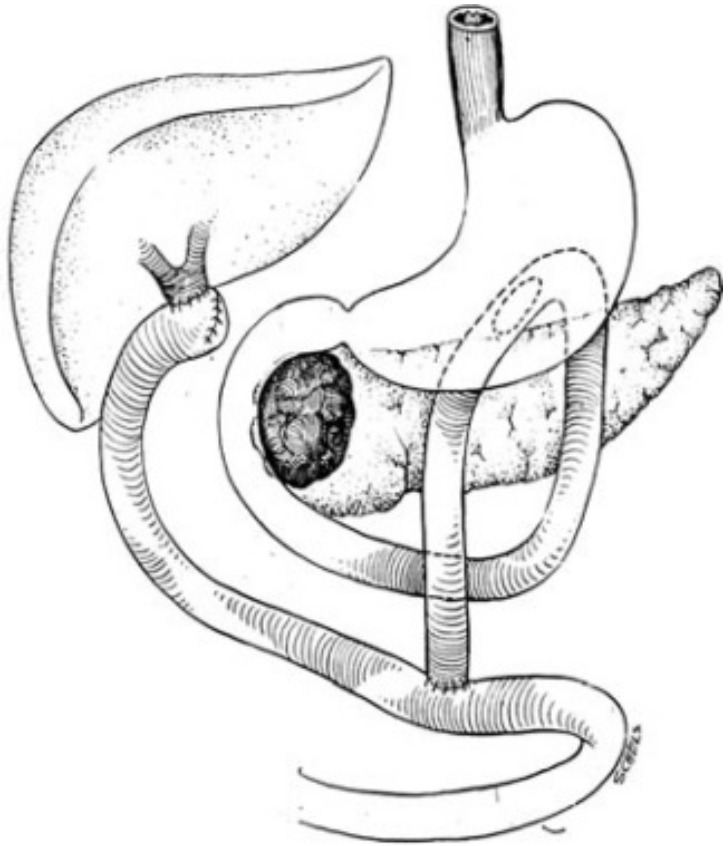


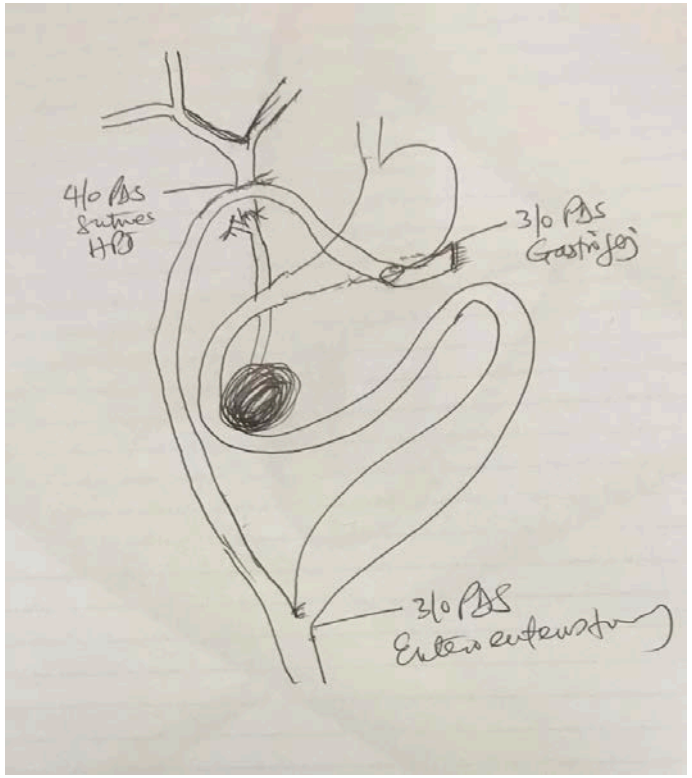
- Pancreatic cancer is second commonest cause of cancer death world wide
- Majority (80%) are irresectable at presentation
- 70 - 90% of patients with head & ampullary cancers presents with jaundice
- ~ 30% may have varying degree of nausea & vomiting;
  - 10 – 15% duodenal obstruction – GOO
  - 17% GOO rate @ 7.8mo post biliary palliation alone
- Palliation of jaundice, GOO & pain remains a significant means of offering reasonable QoL
- Endoscopic and/or surgical means of palliation

Singh SM ea, Clin N Am 89; Scott EN ea, HPB 2009; Marie A ea, J Visc Surg 2013



SURGERY





Surgical palliation

- Traditional means of palliating biliary & enteric obstructions
- Biliary obstruction:
  - Choledocho-duodenal anastomosis
  - Cholecysto-enteric anastomosis (duodenum or jejunum)
  - Hepatico-enteric anastomosis (duodenum or jejunum)
- Gastric bypass:
  - Loop gastrojejunostomy
  - Roux-en-Y gastrojej
  - Usually as a prophylactic procedure: 10 – 20% late obstruction

Sarr WG ea, Surgery 1982; Singh SM ea, Ann Surg 1990; Watanapa P ea, BJS 1992

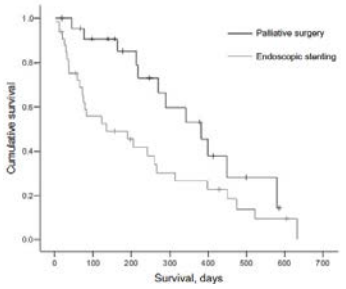
Double bypass……

- Pre-endoscopic era:
  - Irresectability during trail of dissection: locally advanced &/or mets
  - Planned: in fit patient deemed irresectable preop

- Endoscopic era:
  - Locally advanced during scheduled PD:
    - debate wrt gastric bypass in asymptomatic patients

Double bypass

- PROS:
  - Durable palliation – less readmission
  - Same short- & long-term as endoscopic techniques
  - Deals with late GOO
  - Prophylactic GJ not associated with increased time, M/M (17 vs 18%)



Sarr WG ea, Surg ’89; Watanapa ea, Surg 92; KD Lillemoe ea, Ann Surg 99; Scott E ea, HPB 09, Garcea ea Eur J Surg Onc 07

- Cons:
- Unnecessary:
  - Decreased survival of pats
  - Associated increased mortality (33%)
- Does not totally prevent delayed emptying (26% rate)
- Issue of wound + other sepsis
- Slightly prolonged hospital stay

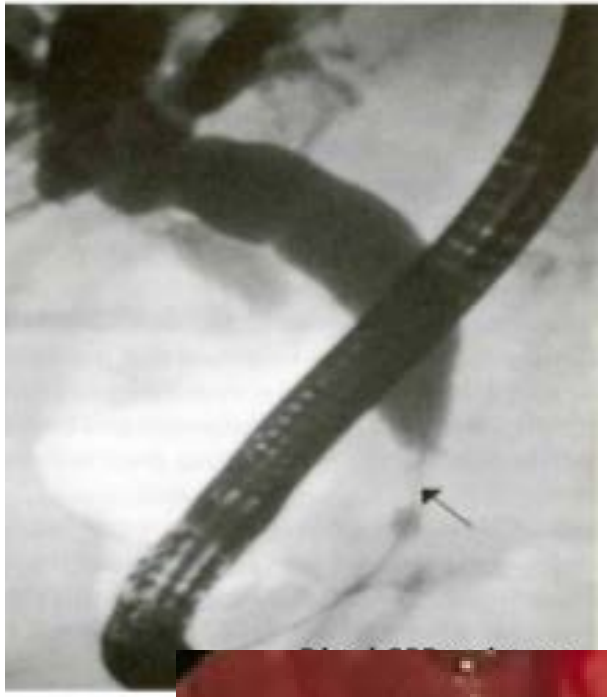
Doberneck RC ea, Arch Surg ‘89; Rooij N ea, Ann Surg 95, Espat N ea, JACS 99

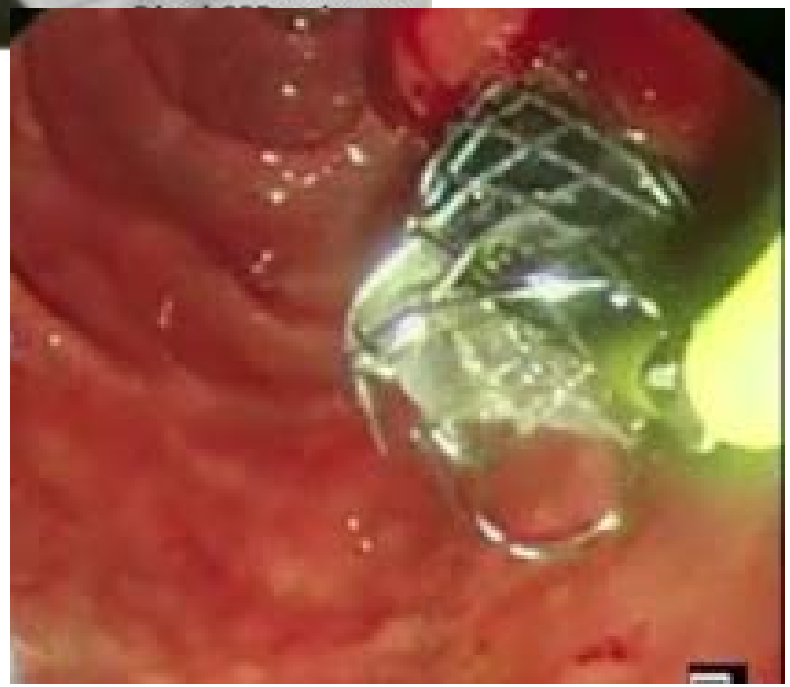
Of Note…..

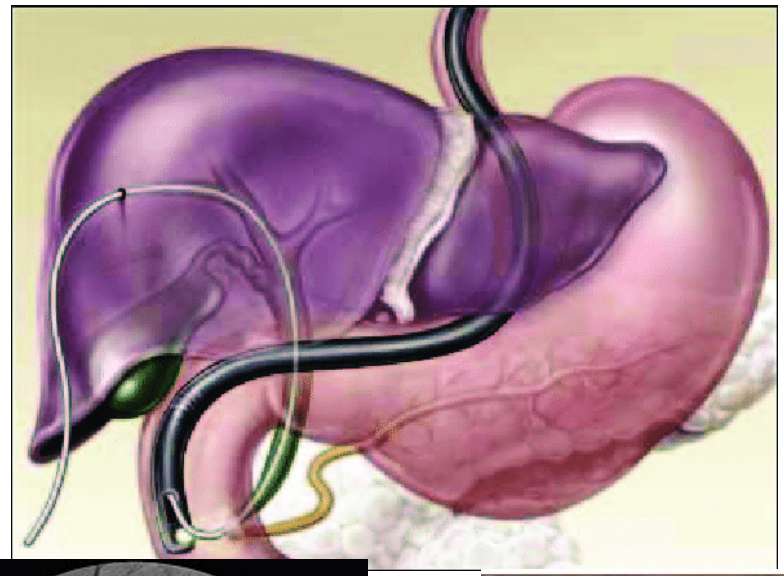
- Type of bypass
  - Loop
  - Roux-en-Y

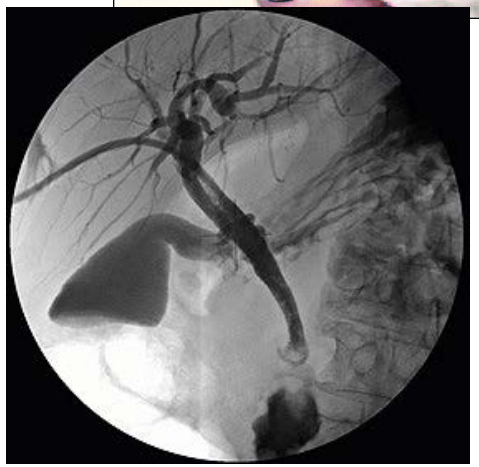
- Route:
  - Antecolic
  - retrocolic

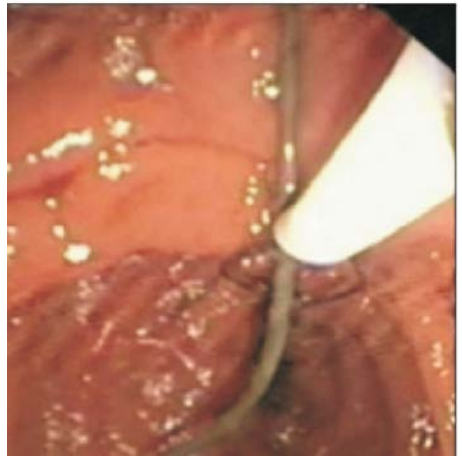
Non-Op Rx: ENDOTHERAPY

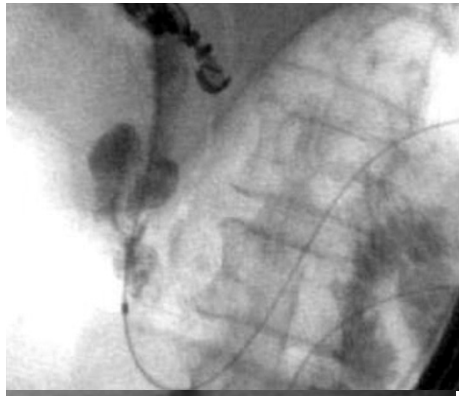


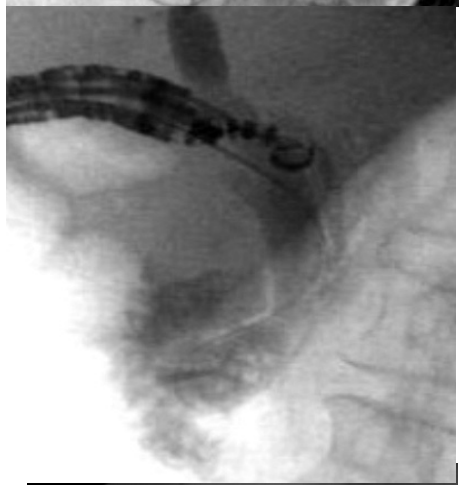


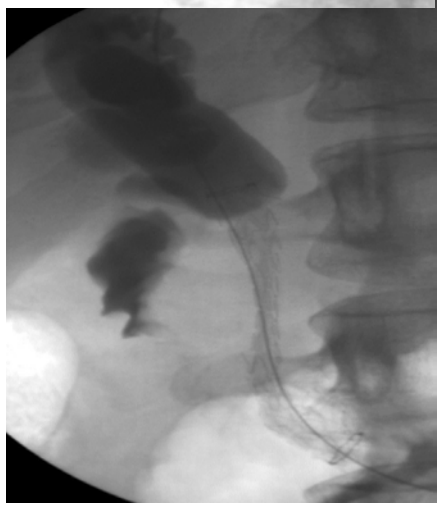












Endoscopic therapy

- Introduced since late 80s
- Revolutionized palliation of biliary strictures:
  - feasible in almost all candidates:
    - endoscopic or Radiology or combination (“Rendezvous”)
    - EUS guided techniques
- Effective palliation of mechanical bowel obstruction since early 90s
- Stents: Large bored 10Fr better that smaller calibers
  - Plastic: Polyethylene or Teflon material (silicone coated or uncoated)
  - Self Expandable Metal Stents (SEMS): uncovered, covered, partially covered, Biodegradable
- Newer technology with metal stents now standard of care

Irresectable panc Ca: endotherapy…

- Low M/M: 2 – 15%, 0.1 – 0.3%
- Low or no hospital stay
- No scar
- Good long-term survival & QoL
- Quite cost effective, re SEMS*

- Not innocuous
- Severe, life threatening complications: bleeding, free perf, pancreatitis, cholecystitis, anesthesia related issues
- Skill acquisition not easy + not widely available
- High re-admission rates: stent changes &/or cholangitis

Double bypass vs Non-op Rx (endotherapy)…

Study, author(s), year	Study type	Number of patients	Findings	Study conclusions
Sunpawervong *et al.*, 2005[22]	Retrospective	116	No difference in survival time, morbidity or cost-effectiveness; surgical palliation resulted in significantly less common late complications (jaundice)	In favour of surgical palliation
Nuzzo *et al.*, 2004[23]	Retrospective	84	Higher incidence of complications in stented group, with frequent hospital admissions and lower quality of life	In favour of surgical palliation
Santagati *et al.*, 2003[24]	Retrospective	107	Higher complication rate, mortality rate and hospital stay in surgically palliated patients	In favour of endoscopic palliation
Maosheng *et al.*, 2001[25]	Retrospective	(Metallic stents)	Higher rate of late complications in metallic stent group, but shorter hospital stay and lower cost	In favour of surgical palliation in patients expected to live >6 months
Wagner *et al.*, 2000[26]	Retrospective	348	–	In favour of surgical palliation
Raikar *et al.*, 1996[27]	Retrospective	66	Endoscopic treatment resulted in shorter hospital stays at reduced cost, with equivalent survival	In favour of endoscopic palliation
Smith *et al.*, 1994[28]	Randomized	204	Lower mortality and complication rates with stenting, but higher rate of late complications	Both effective palliative treatments
van den Bosch *et al.*, 1994[29]	Retrospective	148	Higher early morbidity and mortality in surgical bypass, higher late complications with stenting	Surgical palliation if life expectancy >6 months
Anderson *et al.*, 1989[30]	Randomized	50	No differences in survival or palliation	In favour of endoscopic palliation
Shepard *et al.*, 1988[31]	Randomized	52	No difference in overall survival, more readmissions in the stented group, but total time in hospital still shorter than in those undergoing surgical bypass	Endoscopic palliation is a good alternative to surgery
Sonnenfeld *et al.*, 1986[32]	Retrospective	41	Major complications more common in surgical bypass group with longer hospital stays; no difference in mortality or survival	–
Bornman *et al.*, 1986[33]	Randomized	53	Shorter hospital admission in the stented group, but higher rate of readmissions longterm; no difference in survival	–

- Very limited trials of direct comparisons
- Largely retrospective
- Endotherapy better for short term results but non-superior in long term
- Overall costs are comparable
- More readmissions with endotherapy
- More late complications with endotherapy

Bornman PC ea, Lancet 89; Swartz A ea, Int J Panc 00; Taylor MC ea, Liver Transpl 00; Scott EN ea, HPB 13

Surgery vs Non-ops: which to choose?

- No real guidelines

  BUT….

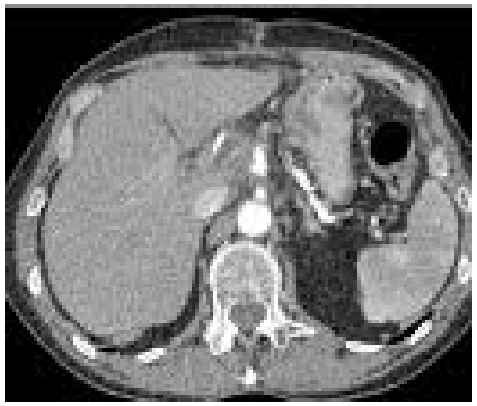
- Consider:
- Available/accessible skill(s)
- Available/accessible facility
- Patients factors: estimated survival, fitness, etc

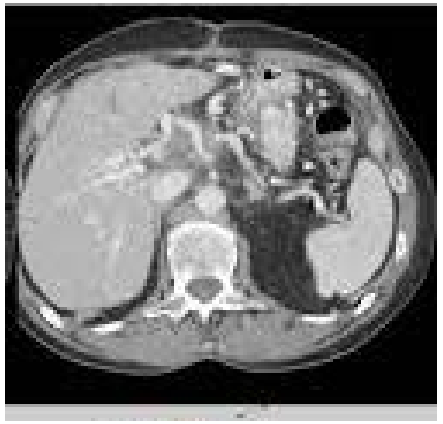
- Appropriate patient selection is paramount

Conclusion

- Surgery & non op modalities provide comparable palliation
- Choice will depend on local circumstances and patient factors
- Endotherapy favored cos of increased wide availability, increased skills acquisition, better technology and less M/M
- Endotherapy does not completely preclude further surgery where indicated
- During surgery, prophylactic gastric bypass essential
- Laparoscopic surgery preferable where the skill exist

Double Bypass Surgery
vs
Endotherapy for Irresectable Pancreatic Cancer





Jones AO Omoshoro-Jones

General & Hepatopancreatobiliary Surgery

Chris Hani-Baragwanath Academic Hospital

Faculty of Health Sciences, School of Clinical Medicine

University of the Witwatersrand