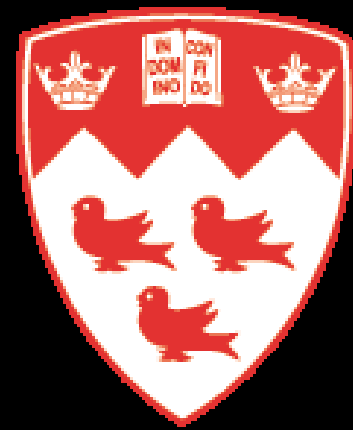


CAIR Case of the Month

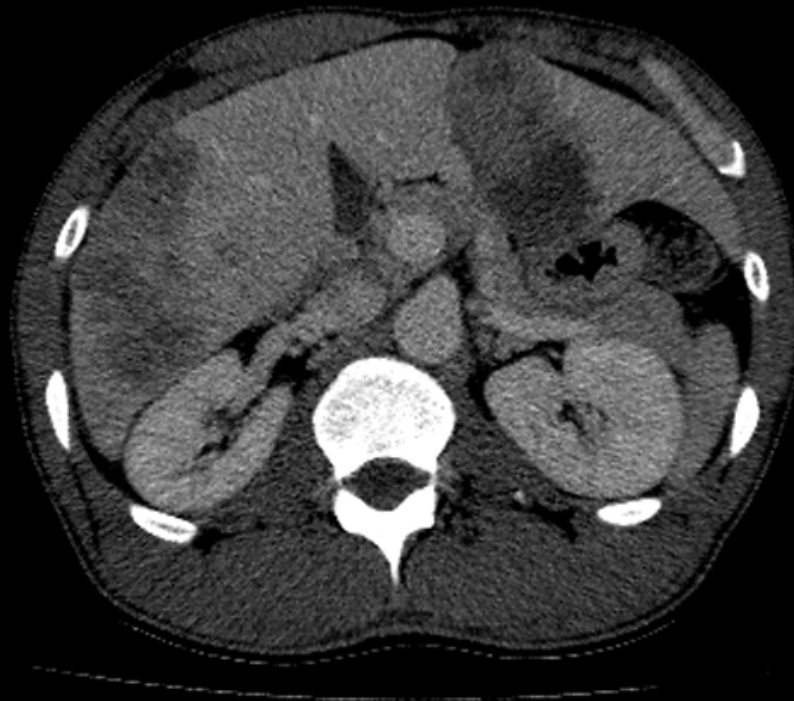
Case Courtesy of
Drs. T. Adlan, A. Bessissow and D. Valenti
McGill University



Case History



- 41 year old man, ECOG-1, no past medical history
- Presents to ER with abdominal pain
- Lesions in II-III, IV, V-VI-VII-VIII



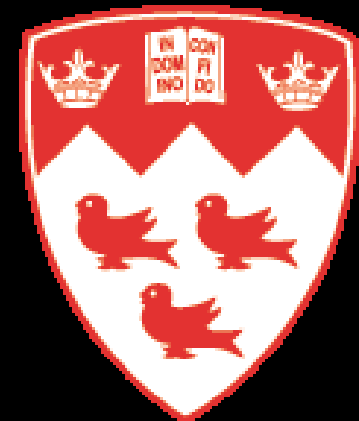
CT (July 2016): Axial CT images demonstrating large volume liver metastatic disease



July 2016



CT scan demonstrating circumferential thickening (Arrows) of the sigmoid colon in keeping with a primary sigmoid carcinoma

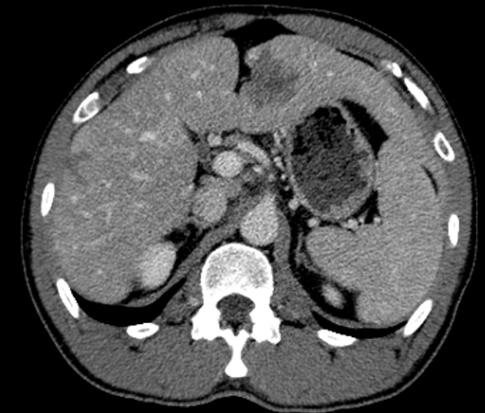
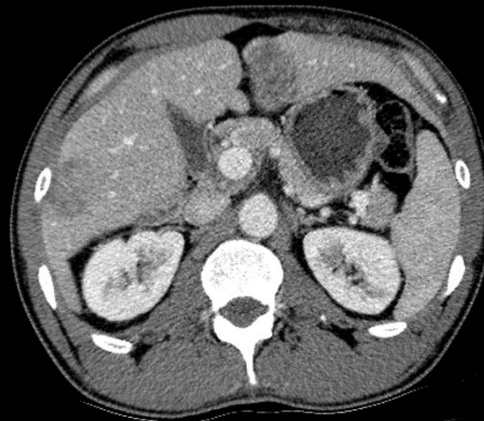
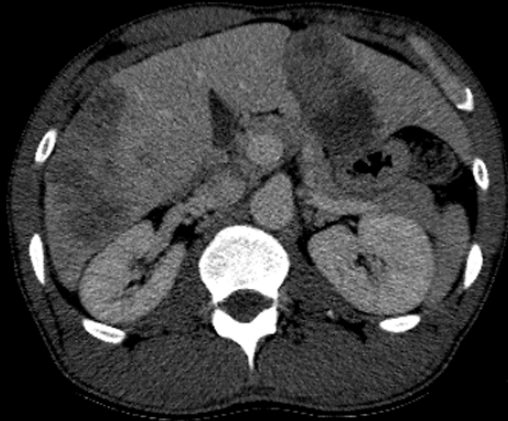
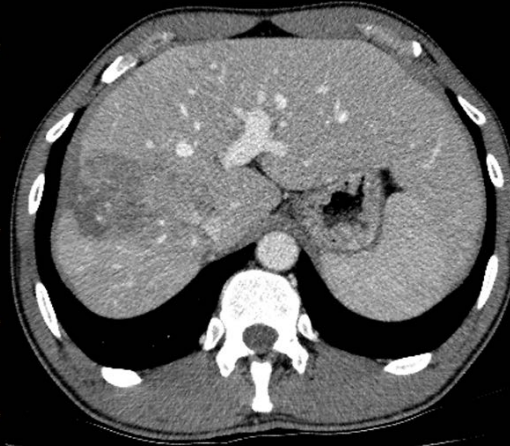


8 cycles of FOLFOXIRI



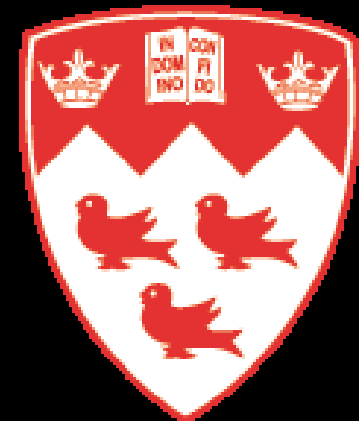
Nov 16

Jan 17



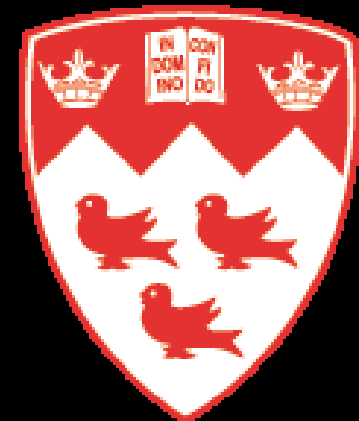
Goal: R0 Resection

- Plan: leave segments II, IV-b
- Resect: III, IV-a, V-VI-VII-VIII
- Staged resection:
 - Resect III
 - R PVE
 - Resect V-VIII & IV-a
- To be followed by neo-adjuvant chemotherapy



Jan 17

- Segment III wedge resection
 - Dissection deep into hilum
- Sigmoid resection



Portal Vein Embolization Feb 17



Fluoroscopic imaging demonstrating portal venogram with the catheter in the portal vein



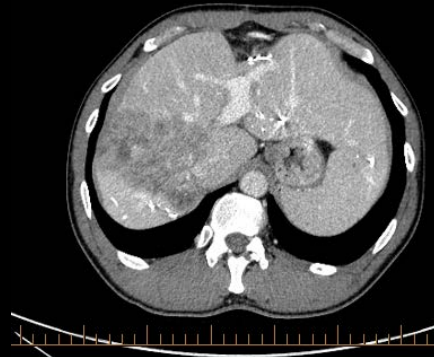


Post right posterior PVE

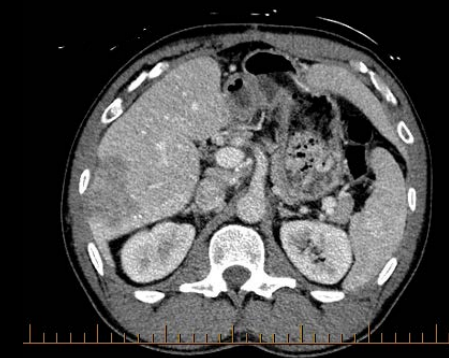
April 17



May 17

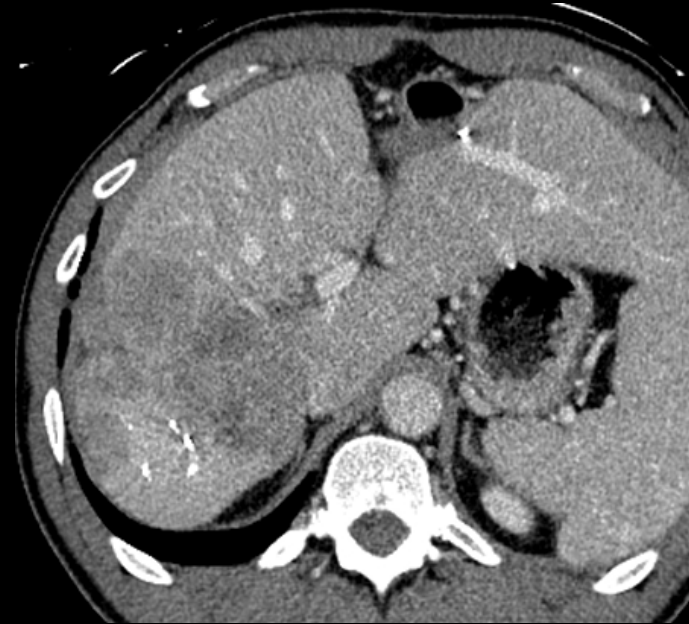
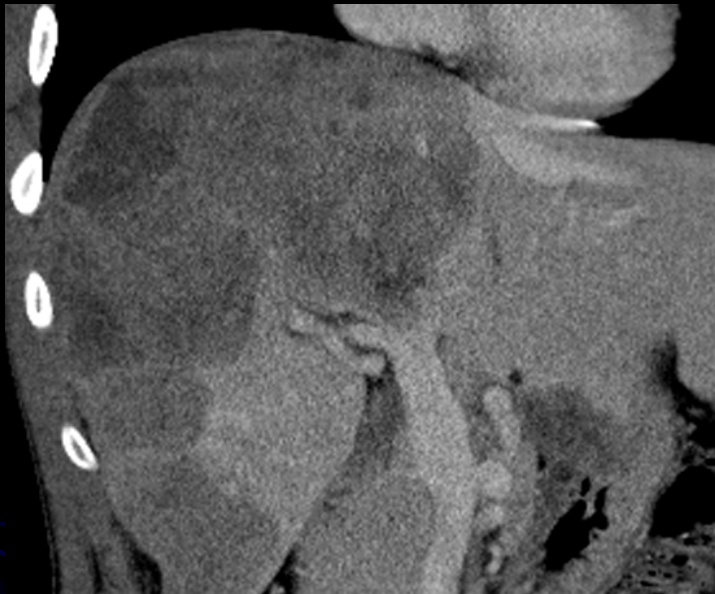


June 17



3 additional cycles FOLFOXIRI, lesions shrinking

June 17 CT



Axial and Coronal CT images demonstrating the lesion in segment VIII extending very deep into the hilum

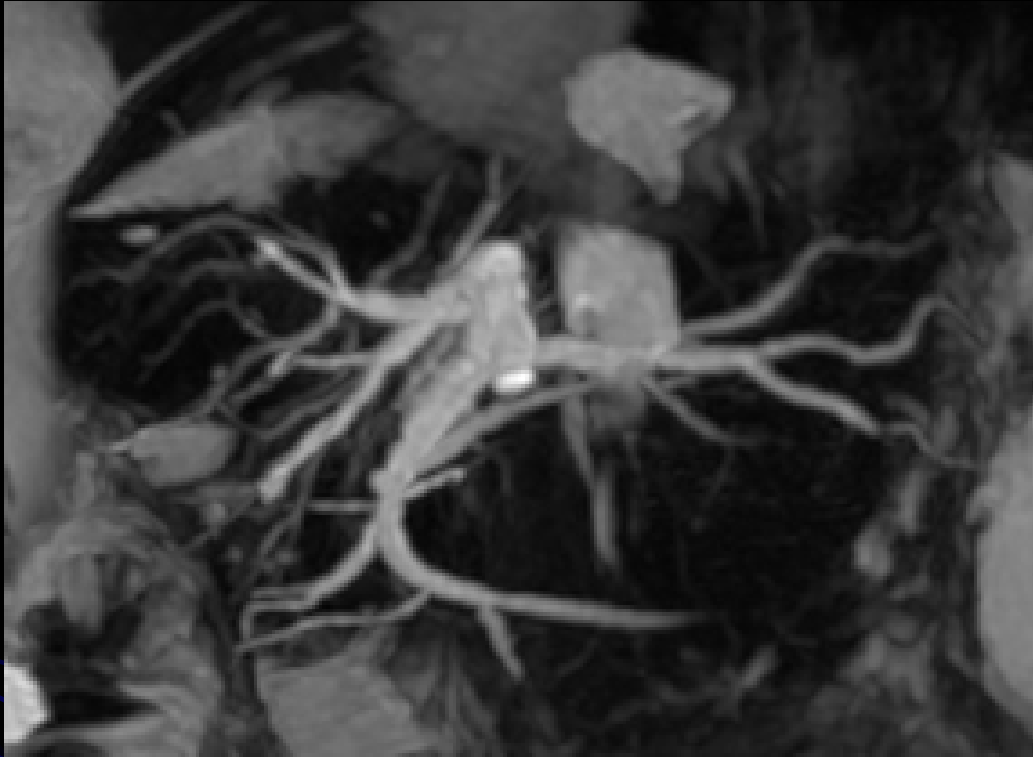


R0 resection in July

- Right trisegmentectomy, with sparing of IV-b
- Segment III partial liver resection
- Segment IV-b wedge resection
- Vena cava partial resection & repair
- Right diaphragm resection & repair
- 30 minute Pringle manoeuvre
- ? Ligation of CBD



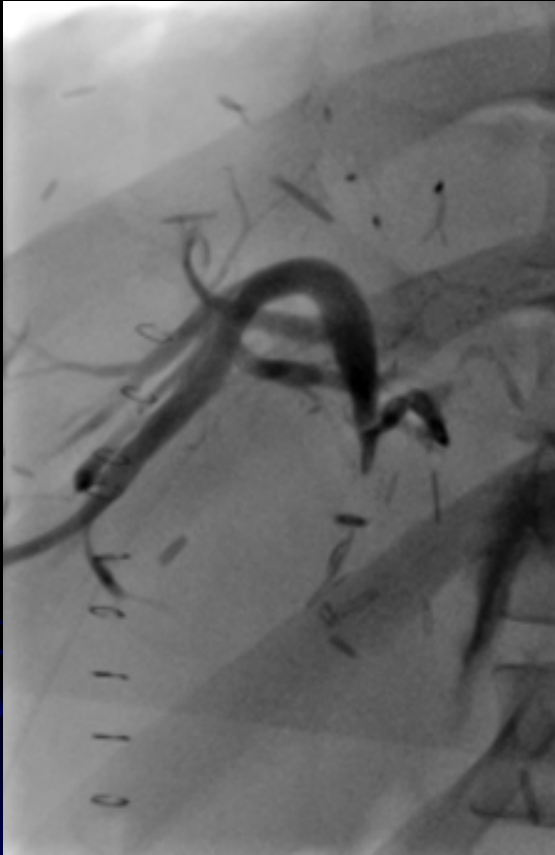
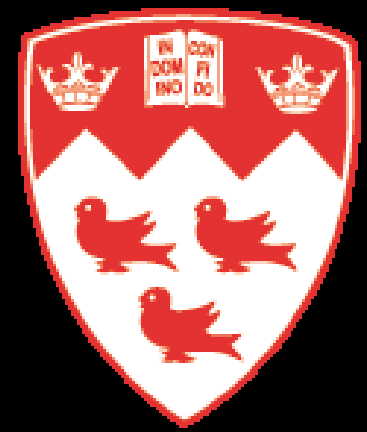
Post operative MRCP performed due to rising bilirubin



MRCP image demonstrating abrupt
CBD cut off



August 2017



Cholangiogram demonstrating dilated and obstructed biliary system

Issues



- Achieved R0 resection, margins clear
- Biliary tree obstructed
 - Can't get neo-adjuvant chemo
- Options/issues:
 - Surgical Roux-en-Y, will delay chemo by 6 weeks at least
 - Chemo with PTC drain, not a great choice
 - Percutaneous recanalization of CBD, unlikely to succeed

Cholangiogram Aug 2017



Cholangiogram demonstrating a persistently obstructed biliary system

Hepaticogastrostomy proposed



Targeting options for hepaticogastrostomy

- Needle-guide cone-beam CT assisted LHD puncture via an insufflated stomach
 - From skin to stomach to LHD
- Advance needle from right-sided PTC into a LHD branch, advance TIPS needle out into an insufflated stomach
- EUS guided LHD puncture



EUS-IR Hepaticogastrostomy

- Fill duct with contrast / volume to create a target



EUS guided 19G needle into left duct

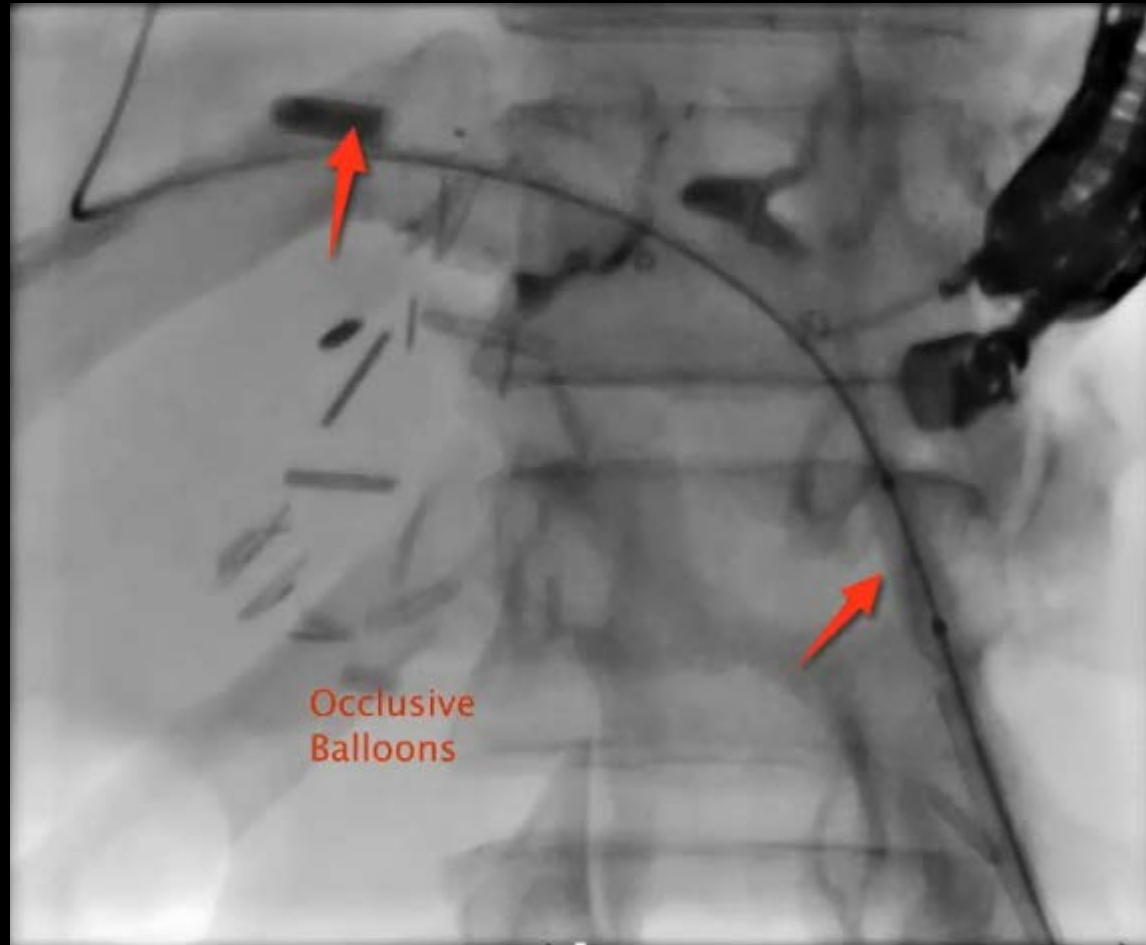


Unable to advance wire from 19G needle into left ducts

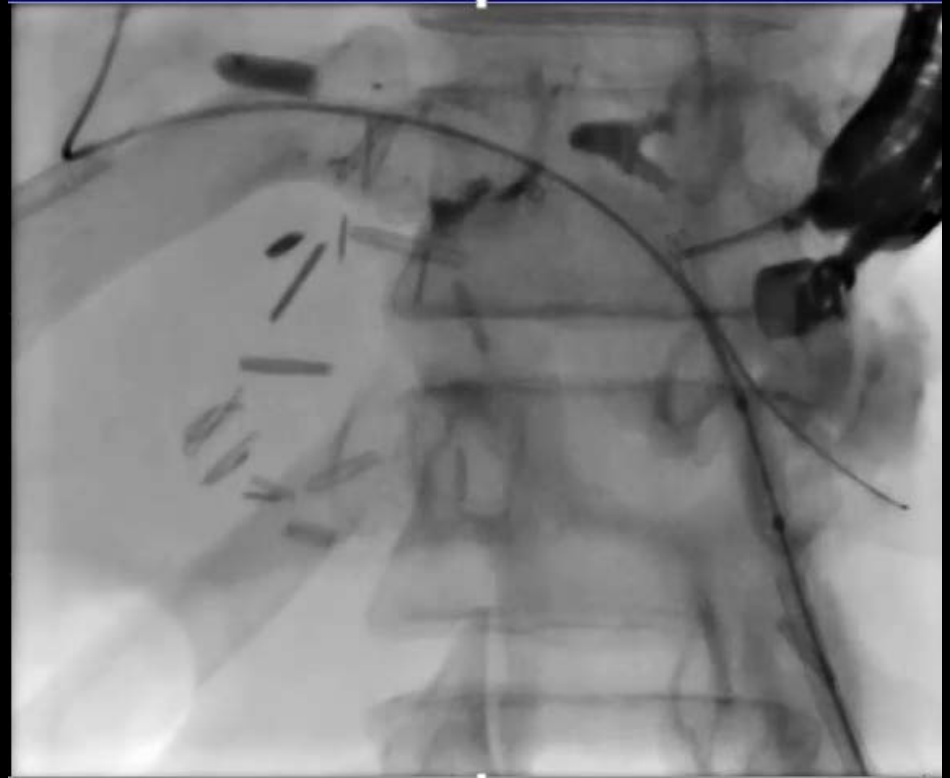


Balloon cholangiogram

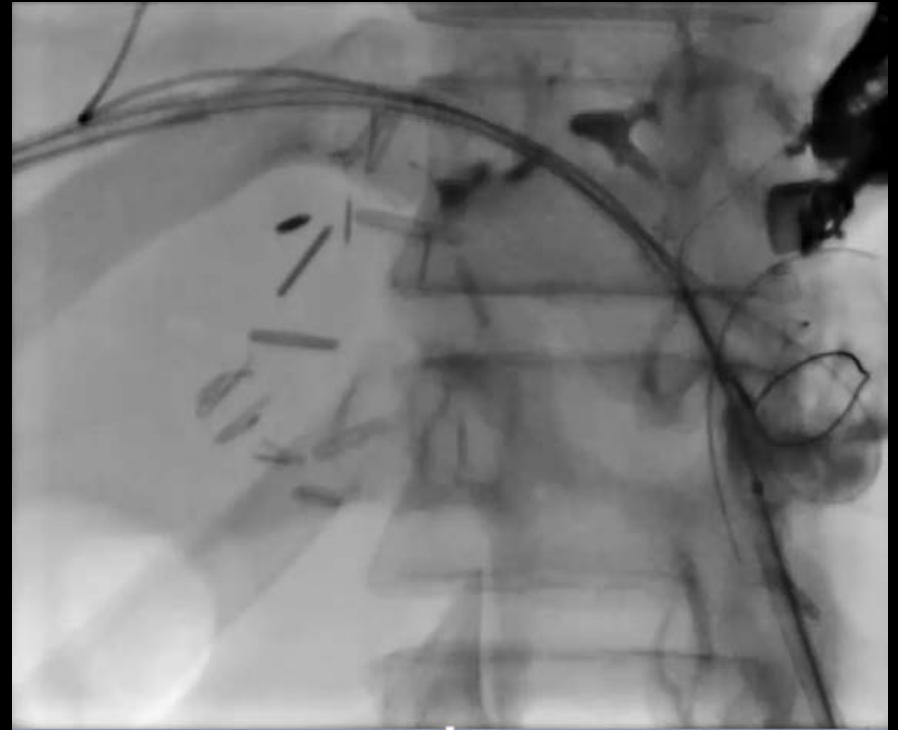
- 2 balloons to isolate duct
- Saline infused to dilate the duct

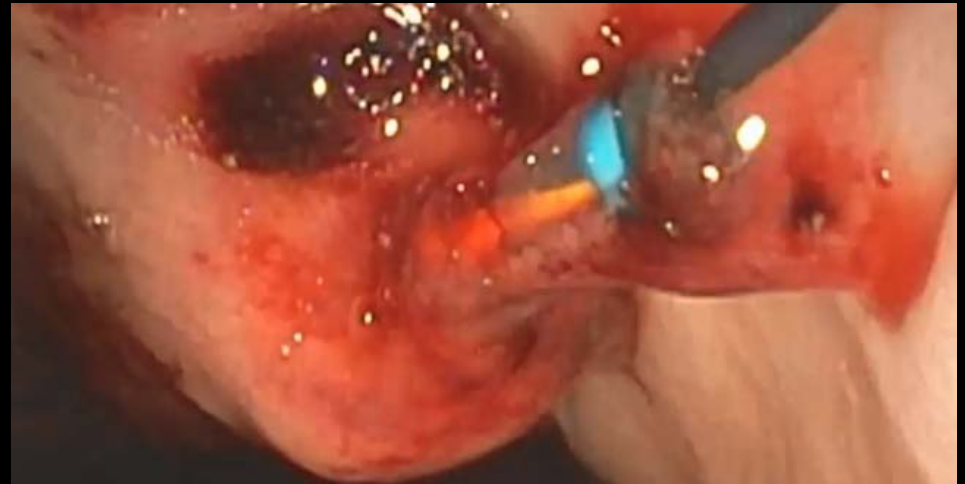


.025" wire passed easily into the left duct branch



- Wire snared and brought out to skin
- Now have end to end wire control





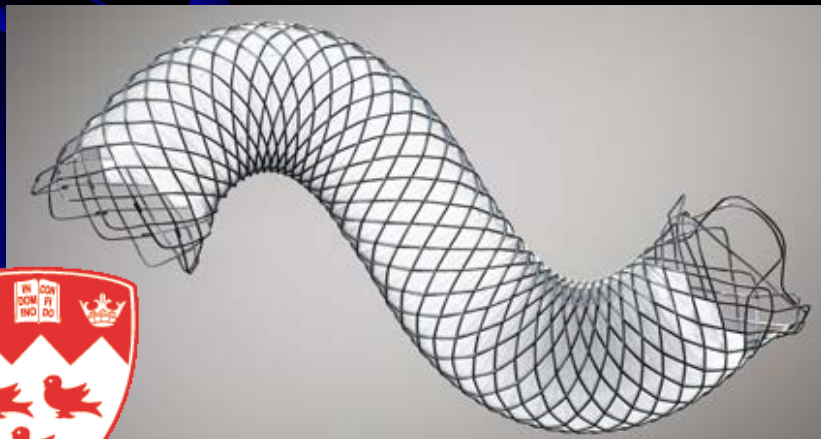
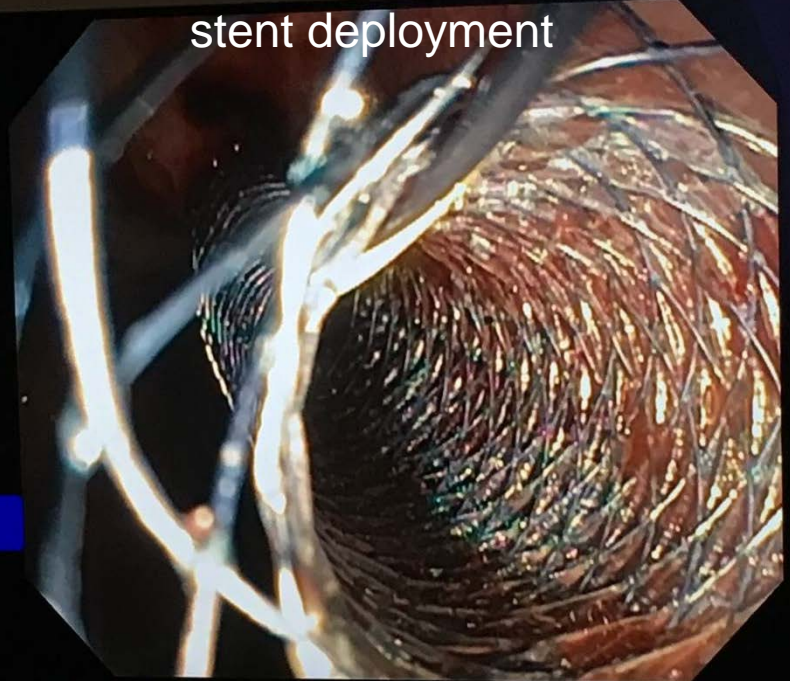
Fluoroscopic and endoscopic images demonstrating balloon dilatation of the hepaticogastrostomy tract





Endoscopic images demonstrating stent deployment

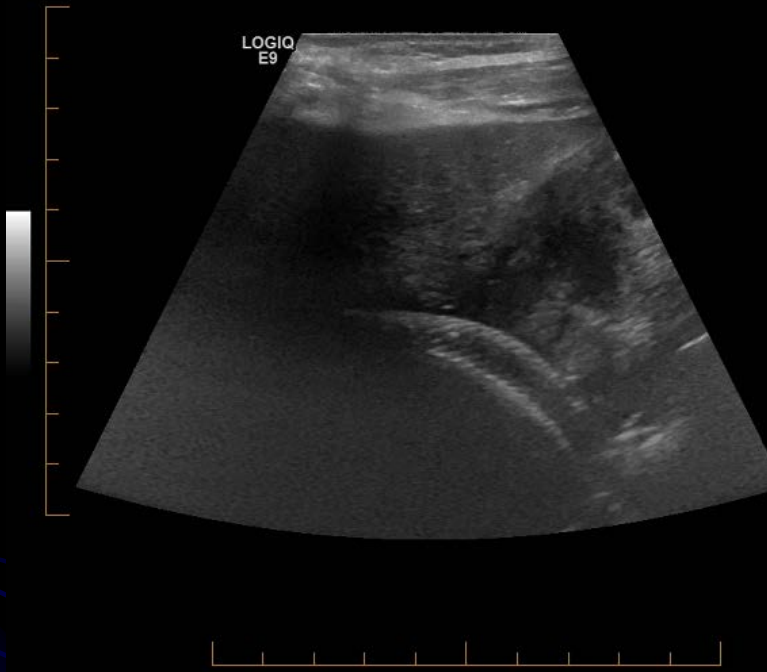
- Stent deployed
- 10 mm x 80 mm
- Boston Scientific partially covered Wallflex Permalume



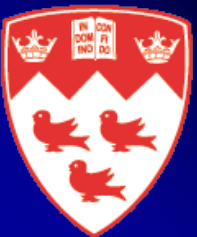
Fluoroscopic images demonstrating stent deployment



2 days post Hepaticogastrostomy



Sonographic and fluoroscopic images post hepaticogastrostomy demonstrating patent stent. Safety catheter removed



Role of hepaticogastrostomy?

- With malignant hilar or ampullary obstruction
 - Stent is far from tumor, less risk of tumor ingrowth into stent
- Bile duct injuries
- As an alternative to a Roux-en-Y hepatico-enterostomy
 - Less invasive, faster recovery



Keys to success

- Inter-specialty cooperation: IR and EUS
- Dilated ducts provide a much easier target
- End to end wire control
 - Improves control and accuracy of stent deployment
 - Reduces risk of losing access and stent mis-deployment
- Possible with EUS alone or IR only
- Much better as a joint effort

