BILIARY AND DUODENAL STENTING

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OVERVIEW

- PATIENT REVIEW
- STEPS OF BILIARY STENTING
- COMPLICATIONS
- REVIEW OF MANAGEMENT OF UNRESECTABLE PANCREATIC CANCER
- OUTCOMES
- ALTERNATIVES
PATIENT REVIEW

HPI
• Patient presented with nausea, vomiting and diarrhea since 1 month

PAST MEDICAL HISTORY-
• Diabetes (dx 1995), hyperlipidemia

PAST SURGICAL HISTORY-
• vitrectomy, cataract removal

Medications- Metformin, Glyburide, Simvisatatin
Our Patient: Pancreatic mass on CT

Axial C+ CT scan-Ill defined mass in the head of pancreas
Gastric dilatation(PACS BIDMC)
Our Patient: Liver metastasis on CT

Axial C+ CT scan-Multiple liver metastasis
Gastric dilatation (PACS BIDMC)
Our patient: Pancreatic mass on MRCP

MRCP(Axial view)-Ill defined mass in the head of pancreas
Duodenal and gastric dilatation(PACS BIDMC)
Our patient: Dilated CBD on MRCP

Dilated CBD along with gastric dilatation

Liver metastasis
Findings on MRCP

- There is a 4.6 cm ill-defined mass centered on the head of the pancreas causing obstruction of the pancreatic duct and CBD.
- The lesion is compressing the duodenum resulting in duodenal and gastric dilatation.
- The lesion tethered and flattened SMV consistent with its involvement.
- Multiple liver metastasis were present which were further evaluated with US guided liver biopsy.
Our Patient: ULTRASOUND GUIDED LIVER BIOPSY

USG: Lesion seen in right lobe of liver (PACS BIDMC)
LIVER BIOPSY NEEDLE

USG: Biopsy needle going inside lesion (PACS BIDMC)
STAGING OF PANCREATIC CANCER

PRIMARY TUMOR (T)

- **T1** Tumor limited to the pancreas, 2 cm or less in greatest dimension
- **T2** Tumor limited to the pancreas, more than 2 cm in greatest dimension
- **T3** Tumor extends beyond the pancreas but without involvement of the celiac axis or the superior mesenteric artery
- **T4** Tumor involves the celiac axis or the superior mesenteric artery (unresectable primary tumor)

Regional Lymph Nodes (N)

- **NX** Regional lymph nodes cannot be assessed
- **N0** No regional lymph node metastasis
- **N1** Regional lymph node metastasis

Distant Metastasis (M)

- **M0** No distant metastasis
- **M1** Distant metastasis
Unresectable Metastatic Pancreatic cancer

• Diagnosis of metastatic pancreatic cancer was made based on imaging and was confirmed by liver biopsy consistent with metastasis of pancreatic origin.

• For the palliation of obstruction, duodenal stent was placed under ERCP
Coronal and axial C+ CT scan-Duodenal stent in 2nd part of duodenum (PACS BIDMC)
Our patient: Clinical course

- After placement of duodenal stent under ERCP patient started developing increasing jaundice and raising bilirubin levels.
- PTBD was performed and 8F internal external biliary drain was placed in IR.
- But patient’s condition was not improving so the patient underwent biliary stenting for distal CBD obstruction.
- Subsequently the patient’s condition improved.
Our Patient: Percutaneous Transhepatic Cholangiogram

Obstruction at distal CBD resulting in proximal dilatation (PACS BIDMC)
PTBD using 8F biliary drain
Insertion of guide wire through preexisting biliary drain
Contrast showing distal CBD obstruction
Dilatation of CBD by 8mm x 4 cm balloon
Balloon fully inflated
Insertion of 8 mm wall stent
Contrast going into bowel
Our Patient: Duodenal and biliary stent on CT

Coronal C+ CT showing duodenal and biliary stent along with anchor drain (PACS BIDMC)
COMPLICATIONS OF BILIARY STENTING

- BLEEDING
- HEMOBILIA
- CAPSULAR HAEMATOMA
- BLOCKAGE
- CHOLANGITIS
Complications of advanced pancreatic cancer

- Gastric outlet obstruction
- Duodenal and biliary obstruction
- Abdominal pain
- Back pain
Management of unresectable metastatic pancreatic cancer

- Palliative chemotherapy-
  First line- Gemcitabine and capecitabine
  Second line- 5FU and oxaliplatin
- Palliation of obstructive symptoms- Palliative surgical bypass, endoscopic duodenal stent, percutaneous radiologic biliary stent placement, or endoscopic biliary stent placement
- DROP Trial compared stenting versus gastrojejunostomy for the palliation of obstructive symptoms
OUTCOMES

1. Endoscopic placement of self-expandable metal stents (SEMSs) is the most effective palliative treatment for inoperable malignant gastroduodenal or biliary strictures.

2. Endoscopic stenting of combined duodenal and biliary malignant obstructions remains technically difficult and percutaneous approach for biliary stenting is preferred.

A-Central type SEMS
B-Lateral type SEMS
What is Known: SEMS and DO

- Rapid relief of symptoms
- Technical success and clinical success 96% and 90%
- Reintervention for occlusion 20% (time related).
- Comparative retrospective and randomized trials of SEMS vs. palliative bypass with GJ – better for survival > 3 months
What is Evolving: Combined Biliary and Duodenal Palliation

Type I

Type II

Type III
Type 1 with duodenal stent in duodenal bulb
Duodenal stent
ALTERNATIVE-ARGON PLASMA COAGULATION

Exposing ampulla for endoscopic cannulation of CBD with duodenal stent in place
Endoscopic stenting of CBD
Alternative-Open cell design stents

- Duodenal stricture: 87% success and 10% complications
References

- BMC Gastroenterology 2007 7:18
- Gastrointestinal endoscopy volume 70
- Staging of pancreatic adenocarcinoma (AJCC)
Acknowledgements

Dr Gillian Lieberman
Dr Ian Brennan