Surgery: Pancreatic Cancer

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Surgery in Cancer

- Primary Therapy
- Can be up to 80% of breast cancer patients
- 70-80% of colorectal cancer patients
- Much less likely to see in metastatic disease

Surgical Intervention for Cancer Treatment

- Primary Therapy
- Debulking
  - Full extent of cancer is not removed
  - Adjuvant therapy
- Palliative
  - Pain and symptom management
- Disease management
  - Staging
  - Restoration

Other Surgical Modalities

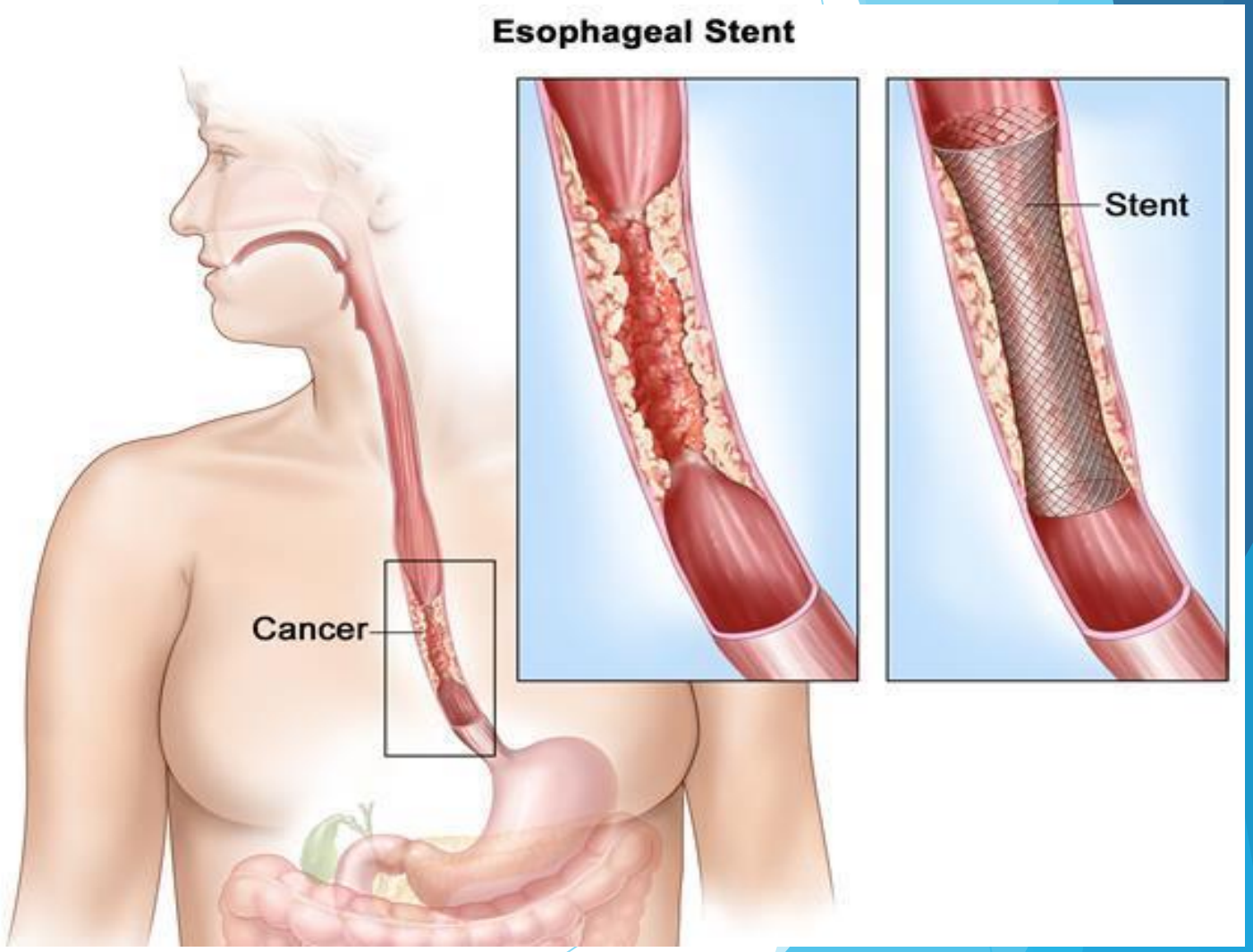
- **Cryosurgery**
  This surgery technique uses extremely cold temperatures to kill cancer cells. Cryosurgery is used most often with skin cancer and cervical cancer.
- **Laser surgery**
  This technique uses beams of light energy instead of instruments to remove very small cancers, to shrink or destroy tumors, or to activate drugs to kill cancer cells.
- **Electrosurgery**
  This technique uses electrical current to kill cancer cells. Seen with skin and oral cancers.
- **Microscopically controlled surgery (Mohs Surgery)**
  This surgery is useful when cancer affects delicate parts of the body, often dermatologic. Layers of skin are removed and examined microscopically until cancerous cells cannot be detected.

Surgery in Cancer

- **Debulking:**
  - **Surgical removal of as much of a tumor as possible**
  - This may increase the chance that chemotherapy or radiation therapy will kill all the tumor cells

Surgery in Cancer

- Palliative
  - Relieve symptoms
  - Improve QoL
  - Help the patient live longer



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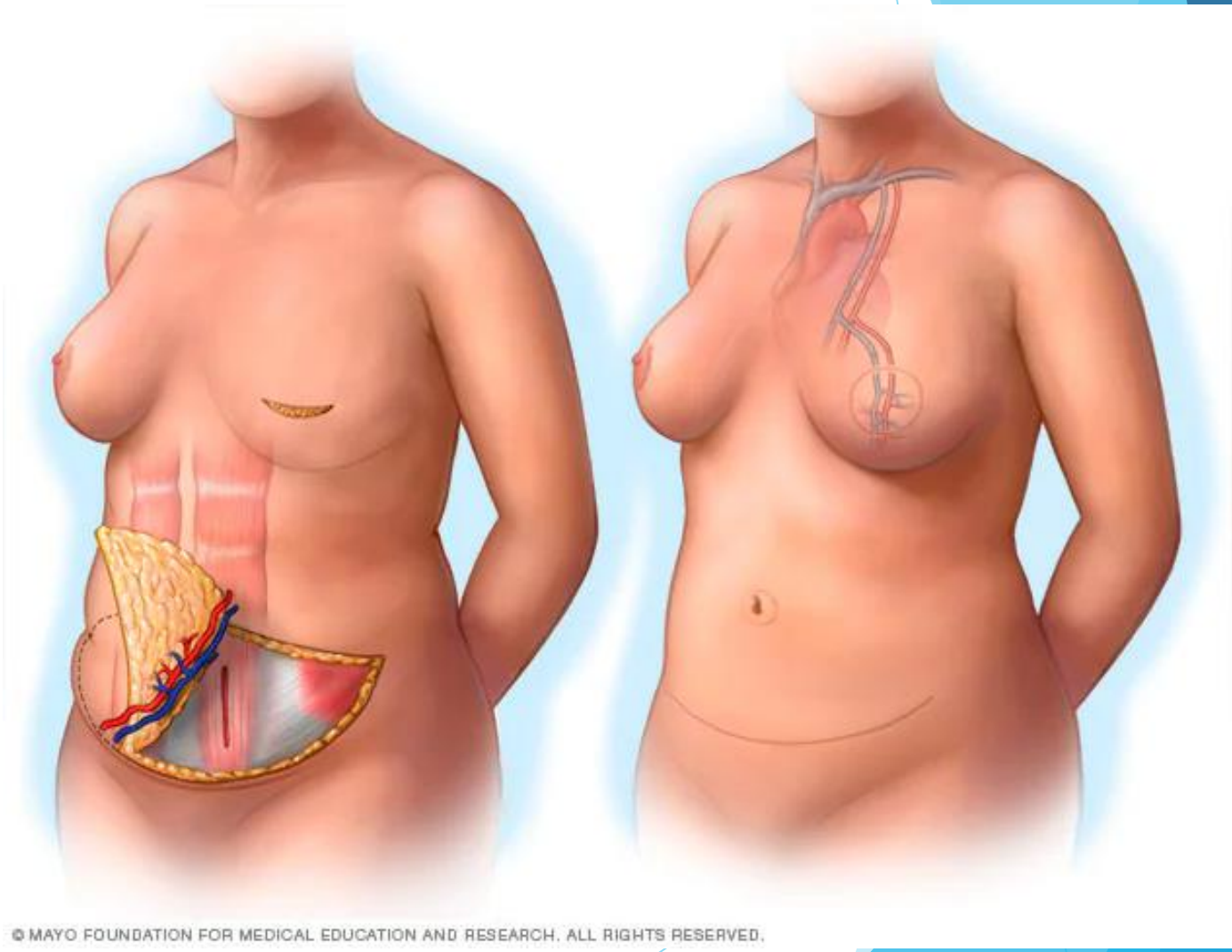
Surgery in Cancer

- Restorative
  - Reconstructive surgery to repair the changes that were made by removing cancer cells
  - Examples:
    - Breast implants post-mastectomy
    - Breast reconstruction post-mastectomy
    - Tissue transplant post head/neck surgery



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Nursing Implications in Surgical Treatment

Nursing assessment

Pre-Operative Care

- History
- Physical exam
- Psychosocial evaluation and caregiver readiness

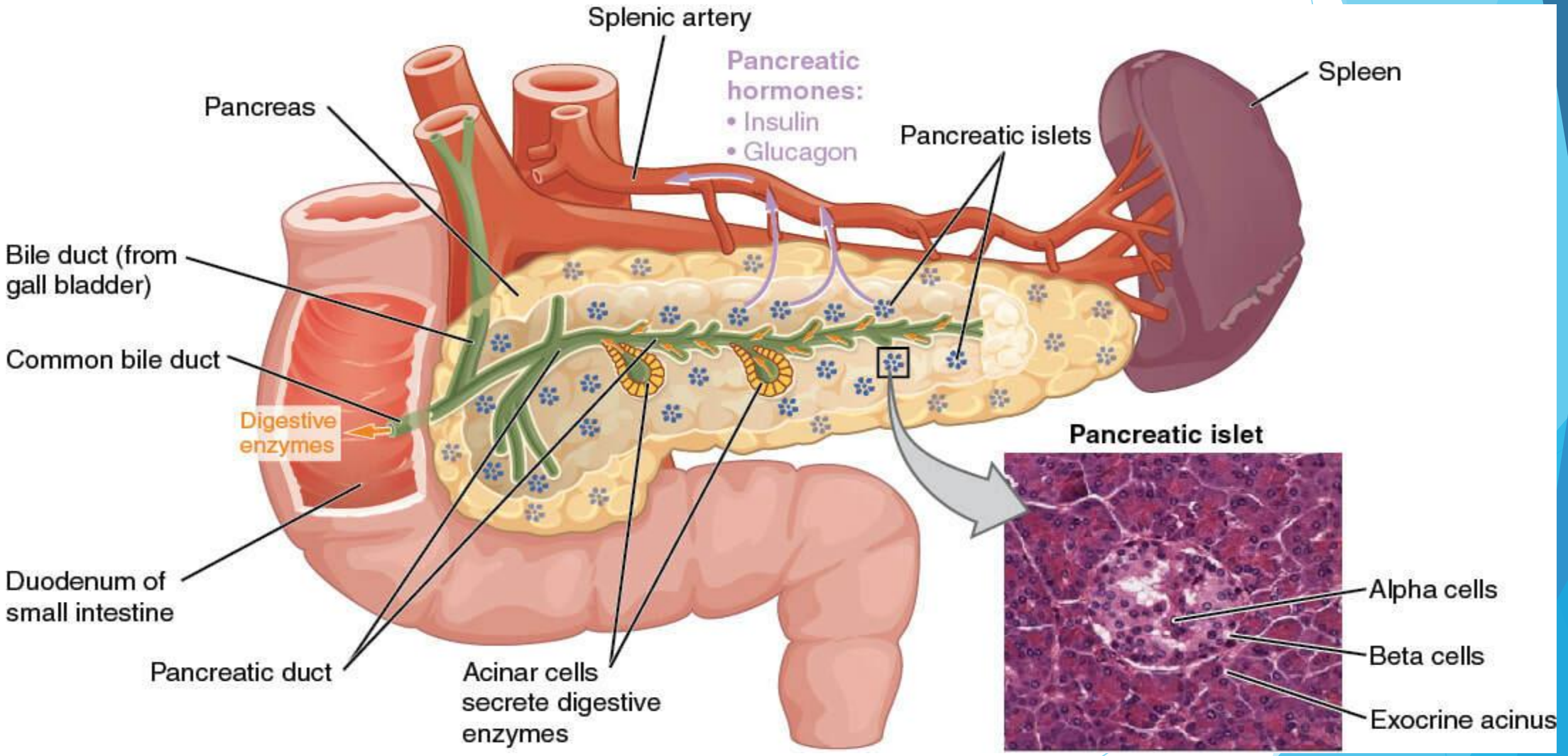
Perioperative Care

- Surgical safety checklist
- Patient skin prep
- Patient positioning
- Correct site

Post-Surgical Care

- Hemodynamic and cardiopulmonary stability
- Pain management
- Pneumonia prevention
- DVT prevention
- Skin integrity and wound healing
- Nutrition
- Bowel function
- Tubes/drains
- Patient/caregiver education
- Discharge planning

Pancreatic Cancer



Pancreatic Cancer

- Endocrine
  - Make hormones
- Exocrine cells (majority)
  - Secretes enzymes
- Risk factors:
  - Tobacco use, heavy alcohol use, Western diet, H. Pylori gastric colonization, lack of exercise, diabetes
- Genetic factors:
  - Familial pancreatitis, Ashkenazi Jewish descent, genetic mutation (STK11, ATM, MLH1)
- Screening:
  - No early detection
  - Symptom acknowledgement:
    - Weight loss, stools that float, nausea/vomiting, dark urine, jaundiced, abdominal bloating, abdominal pain

Pancreatic Cancer

- 62K diagnosed annually
- Lifetime risk 1 in 64
  - 3.2% of newly diagnosed cancers
- 49K expected deaths
  - 8.2% of all cancer deaths
- 5-year survival rate: 10%

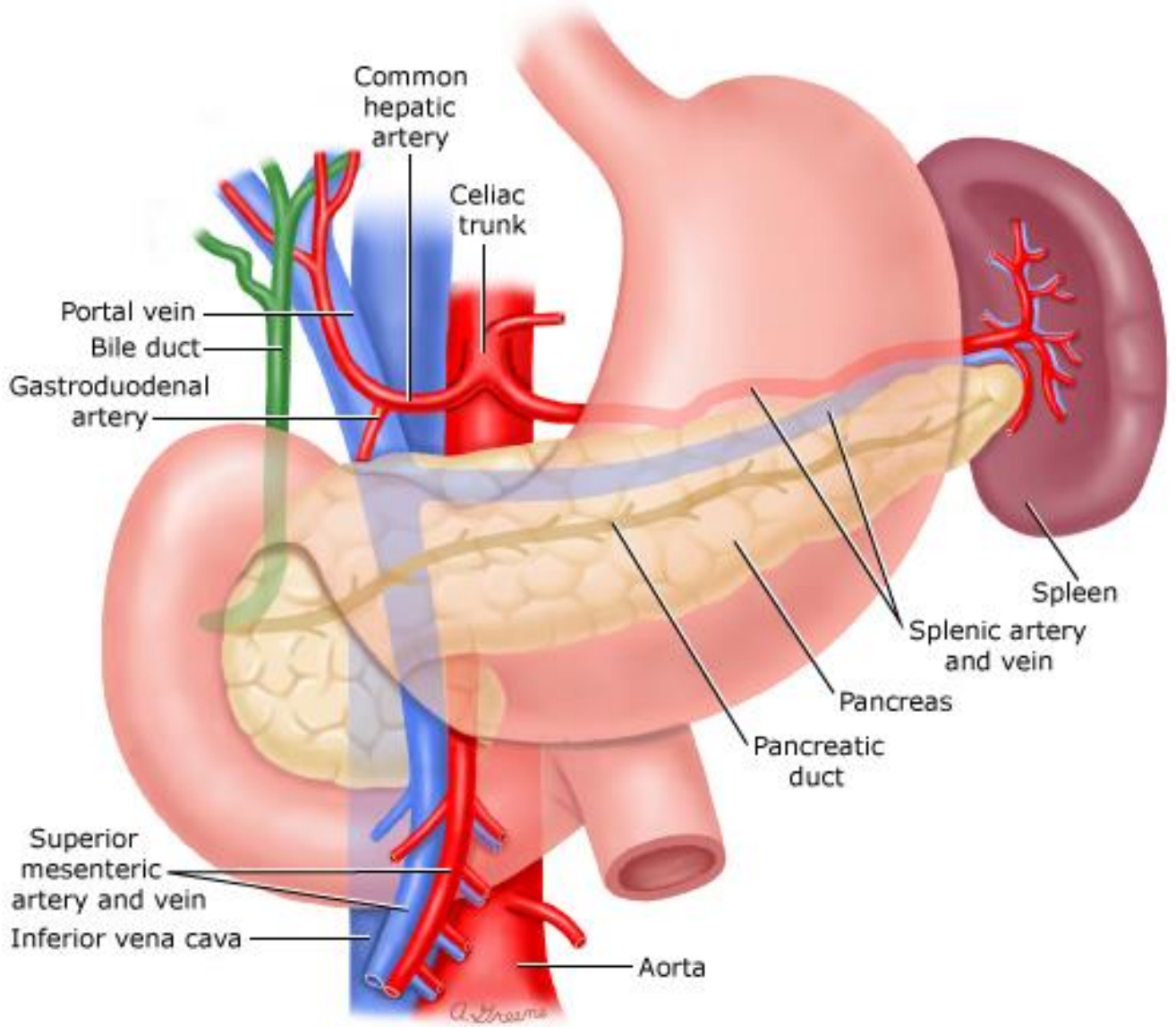
American Cancer Society
NIH

Staging Pancreatic Cancer

- **Resectable:**
  - Pancreas only, without extension to arteries or veins
  - Only potential cure
  - 10-15% at diagnosis
- **Borderline Resectable:**
  - Potentially resectable but only after chemotherapy and/or radiation
- **Locally Advanced:**
  - Grown into area nearby arteries, veins or organs
  - NOT resectable
  - 35-40% at diagnosis
- **Metastatic:**
  - 45-55% at diagnosis

What is Considered Unresectable?

- Metastatic
  - Present in the liver, peritoneum, omentum, extraregional lymph nodes, or any extra-abdominal site
- Vascular invasion
  - Encasement (more than one-half of the vessel circumference) of the SMA or celiac artery
  - Occlusion of the SMV or SMV-portal vein without suitable vessels above and below the tumor to allow for reconstruction



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Making Tumors Resectable

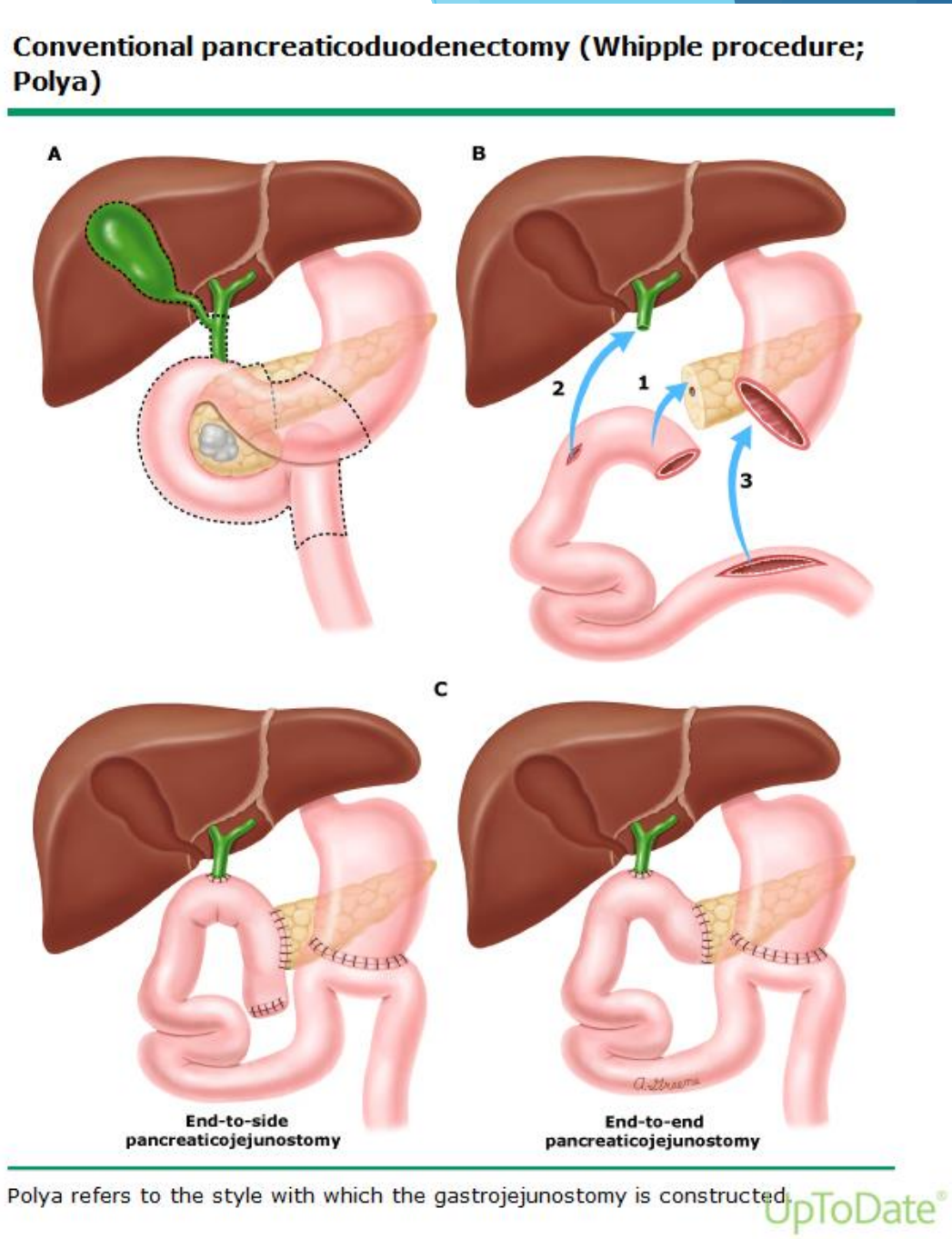
- **Neoadjuvant Therapy**
  - Chemotherapy/immunotherapy
    - Aggressive: FOLFIRINOX, FOLFOX, gemcitabine + nabpaclitaxel
    - Less aggressive: gemcitabine +/- nabpaclitaxel
  - Radiation

- NEOLAP* Trial (2019):
  - 63% of initially unresectable, locally advanced cancers were able to proceed to complete resections
  - Gemcitabine/nabpaclitaxel +/- FOLFIRINOX: no difference

***Neoadjuvant Chemotherapy in Locally Advanced Pancreatic Cancer**

Surgery for Head of the Pancreas Tumors

- **Conventional (Whipple)**
  - Removal of pancreatic head, duodenum, 15 cm jejunum, common bile duct, gall bladder and partial gastrectomy



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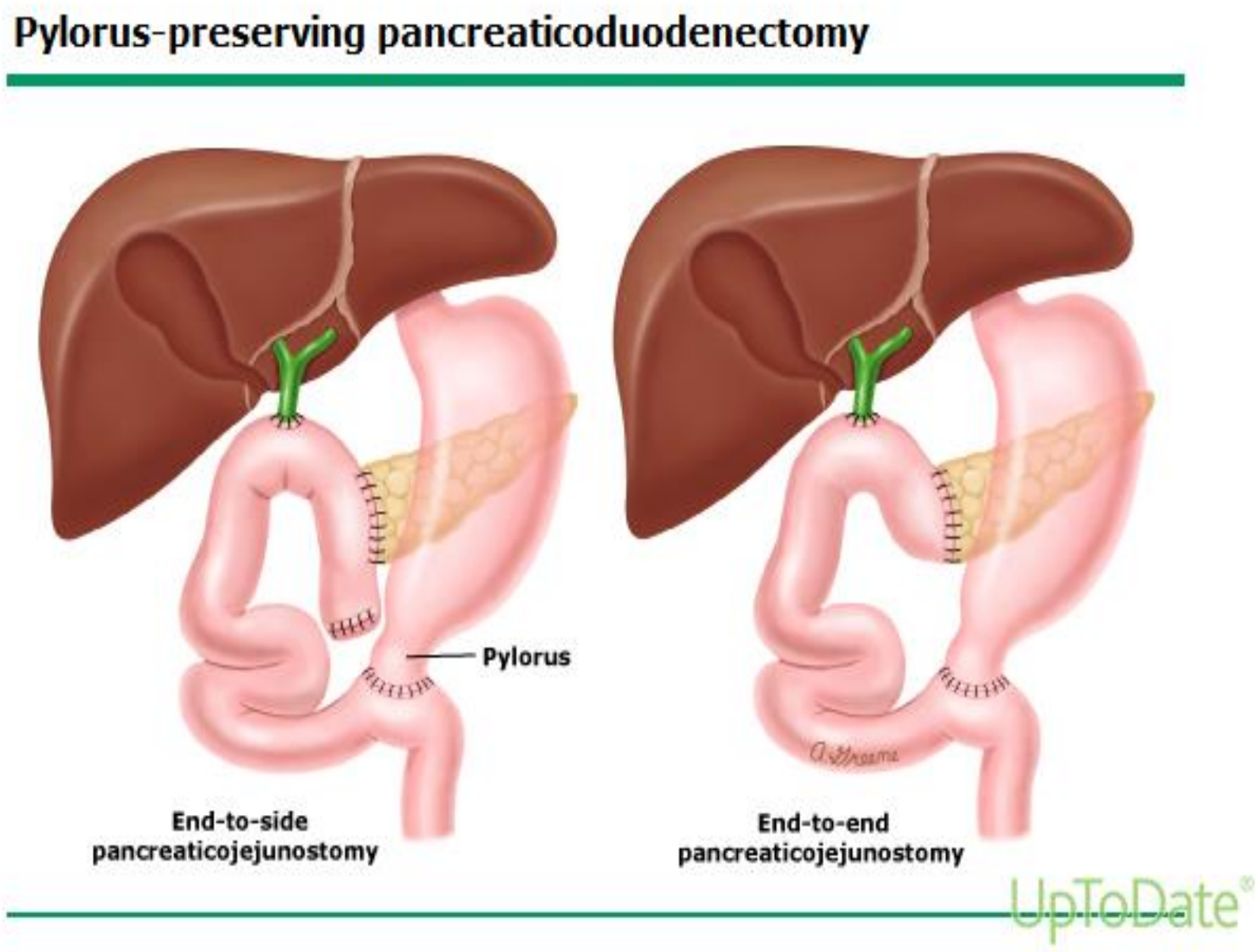
Surgery for Head of the Pancreas Tumors

- Pylorus-preserving
  - Preserves gastric antrum, pylorus, 3-6 cm of duodenum



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Surgery for Body or Tail of Pancreas

- Early diagnosis is rare
- Locally advanced or metastatic at presentation
- If feasible
  - Distal subtotal pancreatectomy and splenectomy
  - Total pancreatectomy

Case Study A.B.

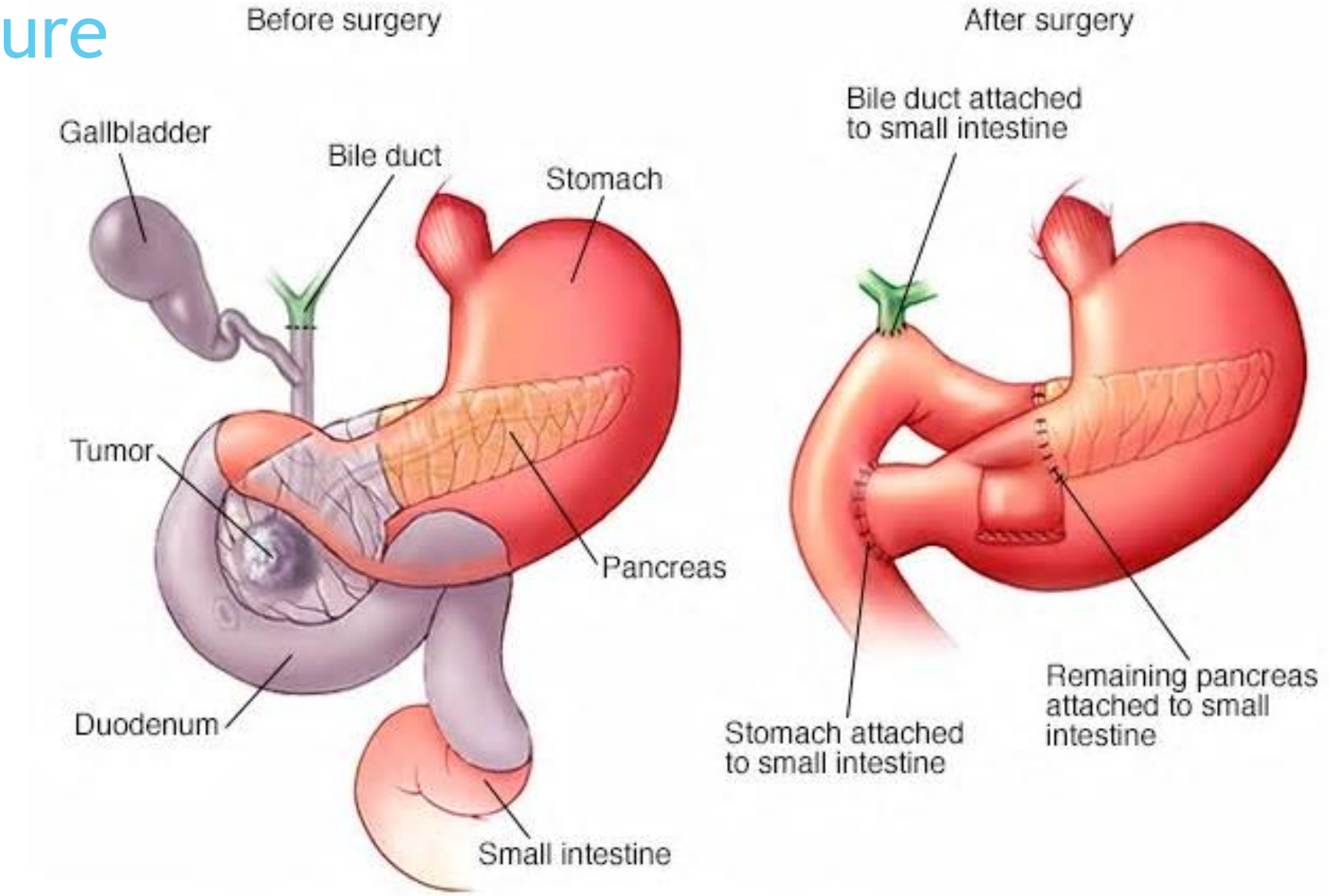
- A.B. is a 75-year-old male admitted after a 3-week history of jaundice, pruritus, pale stools, dark urine, vomiting after meals, and anorexia
- Hx + alcohol abuse
- Stable angina and hypertension
- 53 kg, 170cm which is an 18% weight loss in less than 6 months
- Labs: Albumin 2.5; total bilirubin 206; direct bilirubin 173; GGT 356; alk phos 127
- Abdominal CT showed head of pancreas carcinoma with obstructive jaundice

Symptom Cluster

- "The simultaneous presence of two or more symptoms, which may or may not share etiology and are more strongly related to one another than other symptoms" Burrell et al. (2018)
- Unresectable, locally advanced PC:
  - Fatigue and anorexia
- Undergoing chemoradiation:
  - Anxiety, depression, somatization, pain, and fatigue
- Lung, advanced GI cancers, PC:
  - Fatigue, pain and depression

Pancreaticoduodenectomy: Whipple Procedure

- Removal of the:
  1. Head of the pancreas
  2. First part of the small intestine (duodenum)
  3. Gallbladder
  4. Bile duct



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Case Study: Surgery

- A.B. underwent a Whipple Procedure
- Post Op: NG drainage, sips of water
- 2 days later allowed a diabetic fluid diet.. Held due to abdominal distention and vomiting
- Insulin sliding scale initiated
- 4 days later, tolerating 1/3 of the diet, due to continued nausea and vomiting
- Once the fluid diet is tolerated, advance to full diabetic diet
- Continued to recover and discharged home:
  - Diabetic diet and insulin continued, multivitamins, folate and B_{12}
- Pancreatic enzymes did not require supplementation

Question

- Which of the following symptom cluster would you most likely find in a patient post-Whipple procedure?

A. Fatigue, trouble sleeping, poor appetite, weight loss
B. Fatigue, shortness of breath, abdominal pain, dizziness
C. Vomiting, decreased appetite, memory impairment, coughing
D. Difficulty swallowing food, depression, peripheral neuropathy

Postoperative Symptom Clusters in Pancreatic Cancer

- Pain–gastrointestinal
  - Nausea, back pain, abdominal pain/cramping, poor appetite, constipation, trouble digesting food
- Mood
  - Anxiety, depression
- Digestive problems
  - Loss of bowel control, trouble digesting food
- Fatigue–nutritional problems
  - Weight loss, change in taste, dry mouth, fatigue
- Jaundice
  - Nausea, jaundice

Postoperative Care

Immediate Post Op:

- Site assessment:
  - Color, integrity, drainage
- Hemorrhage
- Abscess
- Obstruction
- Electrolyte imbalance
- Dehydration
- GI symptoms:
  - N/V/D/Bloating

Assessment and Patient Teaching:

- Skin care
- Psychological support
- Nutrition
- S/S Dumping Syndrome
  - 30-60 minutes

Question

- Which of the following nursing assessments is least important post-Whipple procedure?
  A. Glucose monitoring
  B. Surgical site visualization
  C. DVT assessment
  D. Visual acuity assessment

Nursing Considerations in Surgery

- Delayed gastric emptying
- Pancreatic Fistula
- Malabsorption
- Onset of Diabetes Mellitus
- Vitamin and Mineral deficiencies

Postoperative Scenario: A.B.

- Follow up reveals continued DM, decreased N/V, and increased weight
- Maintain low fat, diabetic diet focusing on small meals throughout the day
- Further monitoring for pancreatic cancer and possible chemotherapy and/or radiation

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