

Cancer of the Pancreas



Incidence

- Pancreatic cancer is the *fourth* leading cause of cancer death in the United States
- Following Lung, Colorectal, and Breast cancers
- In Europe, pancreatic cancer is the sixth leading cause of cancer death
- *lowest incidence* worldwide is seen in parts of the Middle East and in India
- incidence of periampullary carcinoma *increases with age*
- majority present in or beyond their *sixth decade* of life
- slight *male* preponderance

Pathology

- site of origin of a *periampullary* malignancy can be difficult to determine
- 40–60% are *adenocarcinomas* of the head of the pancreas
- 10–20% are adenocarcinomas of the ampulla of Vater
- 10% are distal bile duct adenocarcinomas
- 5–10% are duodenal adenocarcinomas

- rare histologies include
 - *acinar,*
 - *squamous,*
 - *islet cell tumors, or*
 - *tumors of nonepithelial origin*
 - *Cystic neoplasms - benign serous cystadenomas, potentially malignant mucinous cystadenomas*
 - *Various sarcomas*
 - *Lymphomas*
 - *metastases from other primaries, including kidney, breast, lung, melanoma, stomach, colon, and germ cell primaries*

Etiology

- cigarette smoking - carcinogenic effects of tobacco smoke and nitrosamines
- genetic syndromes with increased risk
 - Hereditary nonpolyposis colorectal cancer (HNPCC),
 - familial breast cancer associated with the BRCA2 mutation,
 - Peutz-Jeghers syndrome,
 - ataxia-telangiectasia syndrome,
 - familial atypical multiple mole-melanoma syndrome (FAMMM), and
 - hereditary pancreatitis
- mutations in the protooncogene K-ras

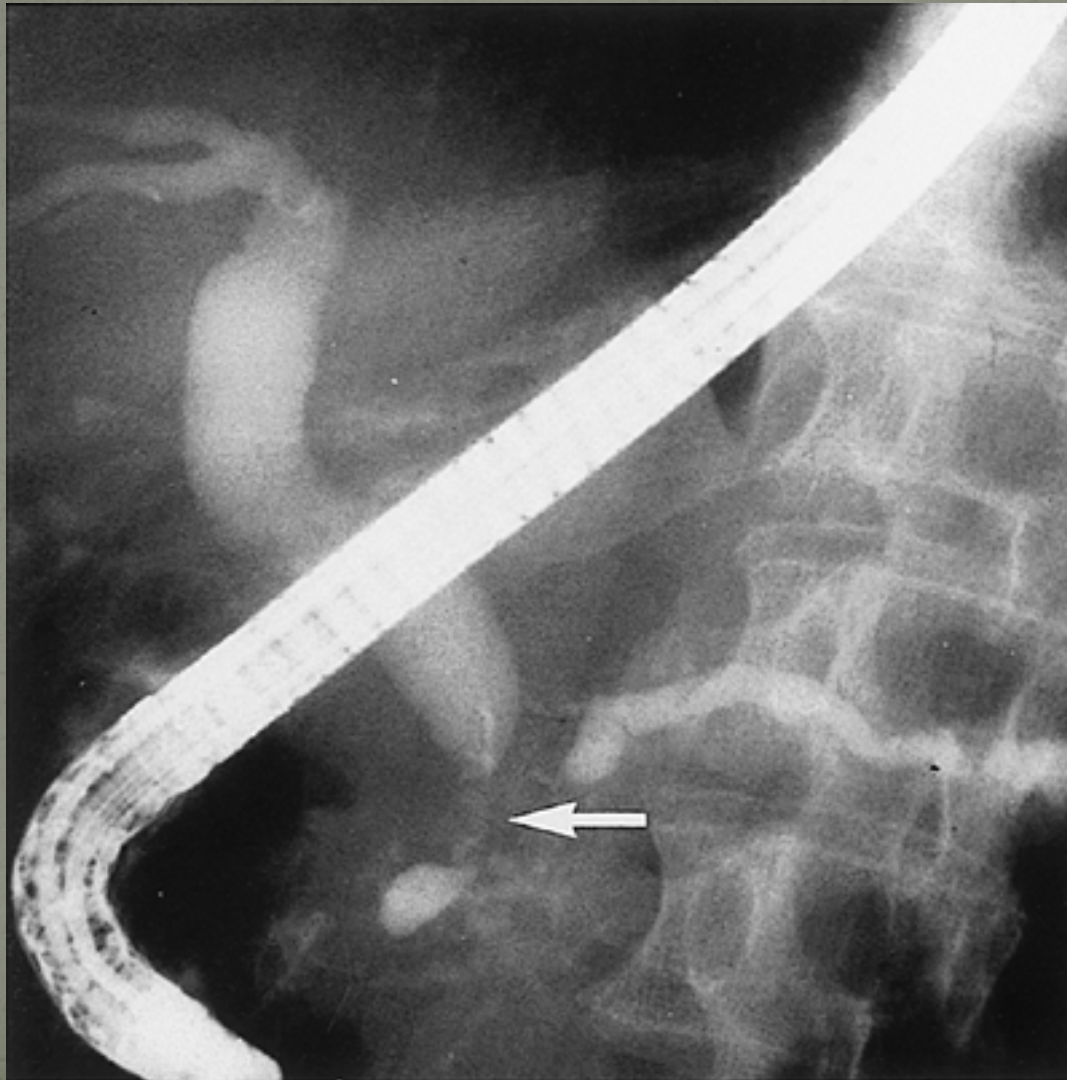
Clinical Presentation

- often have vague symptoms early in the course of their disease
- symptoms at presentation are related to the location of the tumor – obstructive or nonobstructive
- pain is often vague and involving the upper abdomen, epigastrium, or back, Later, this pain can progress to severe pain often radiating to the back
- Two thirds to three fourths of patients with pancreas cancer present with the classic constellation of symptoms indicative of obstructive jaundice: jaundice, pruritus, acholic stools, and tea-colored urine
- general symptoms including anorexia, fatigue, malaise, and weight loss

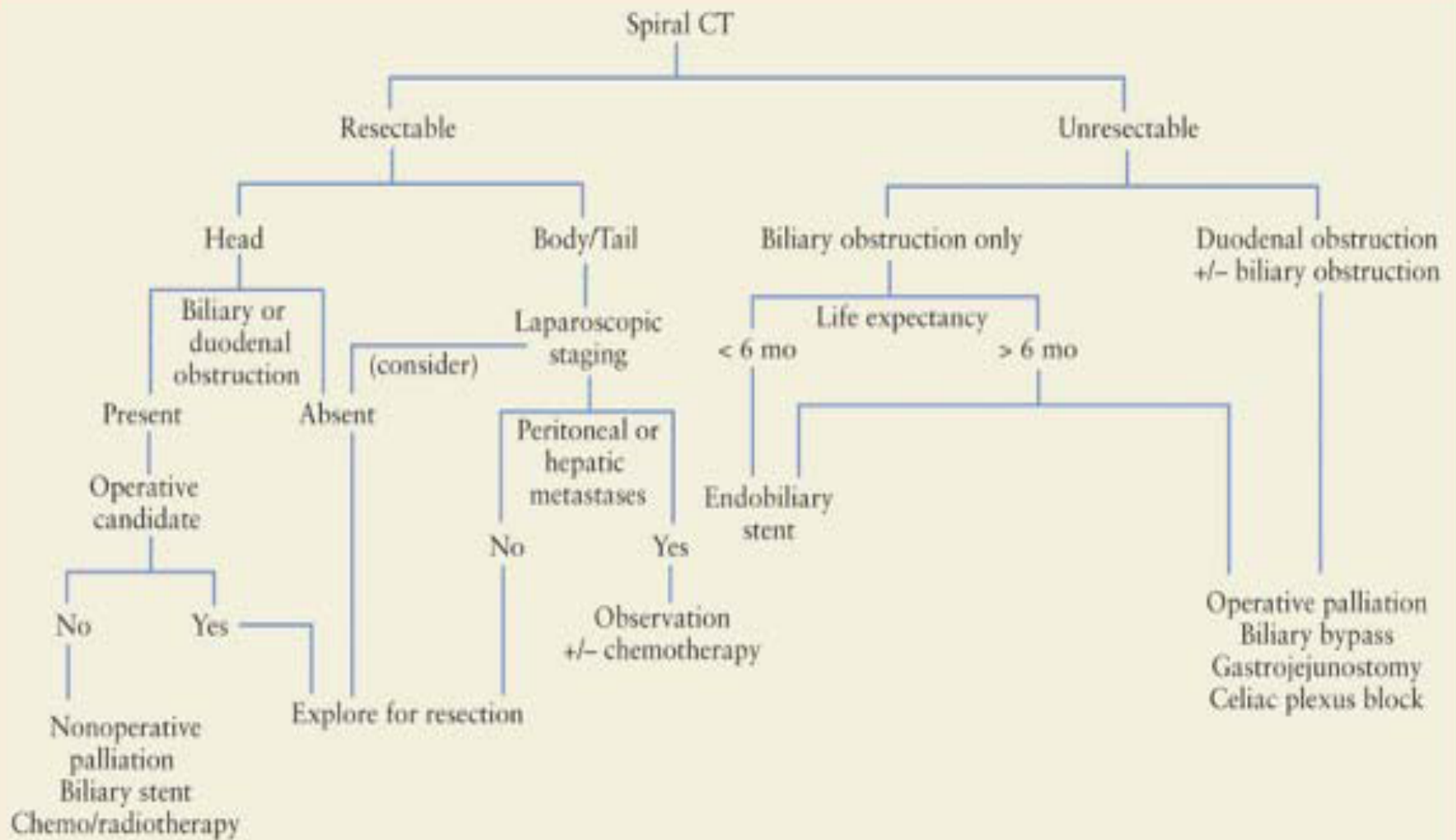
Physical findings on examination

- scleral icterus,
 - jaundice,
 - hepatomegaly,
 - a palpable gallbladder (Courvoisier's sign), and
 - skin excoriation from pruritus and scratching.
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- Signs of advanced disease include
 - cachexia,
 - palpable nodules in the liver,
 - palpable metastatic disease in the left supraclavicular fossa (Virchow's node),
 - palpable metastatic disease in the periumbilical area (Sister Mary Joseph's node), and
 - pelvic metastatic disease palpable anteriorly on rectal examination (Blumer's shelf)

Endoscopic retrograde cholangiopancreatography in a patient with adenocarcinoma of the pancreas demonstrates a stricture of both the distal common bile duct and the pancreatic duct (*arrow*).

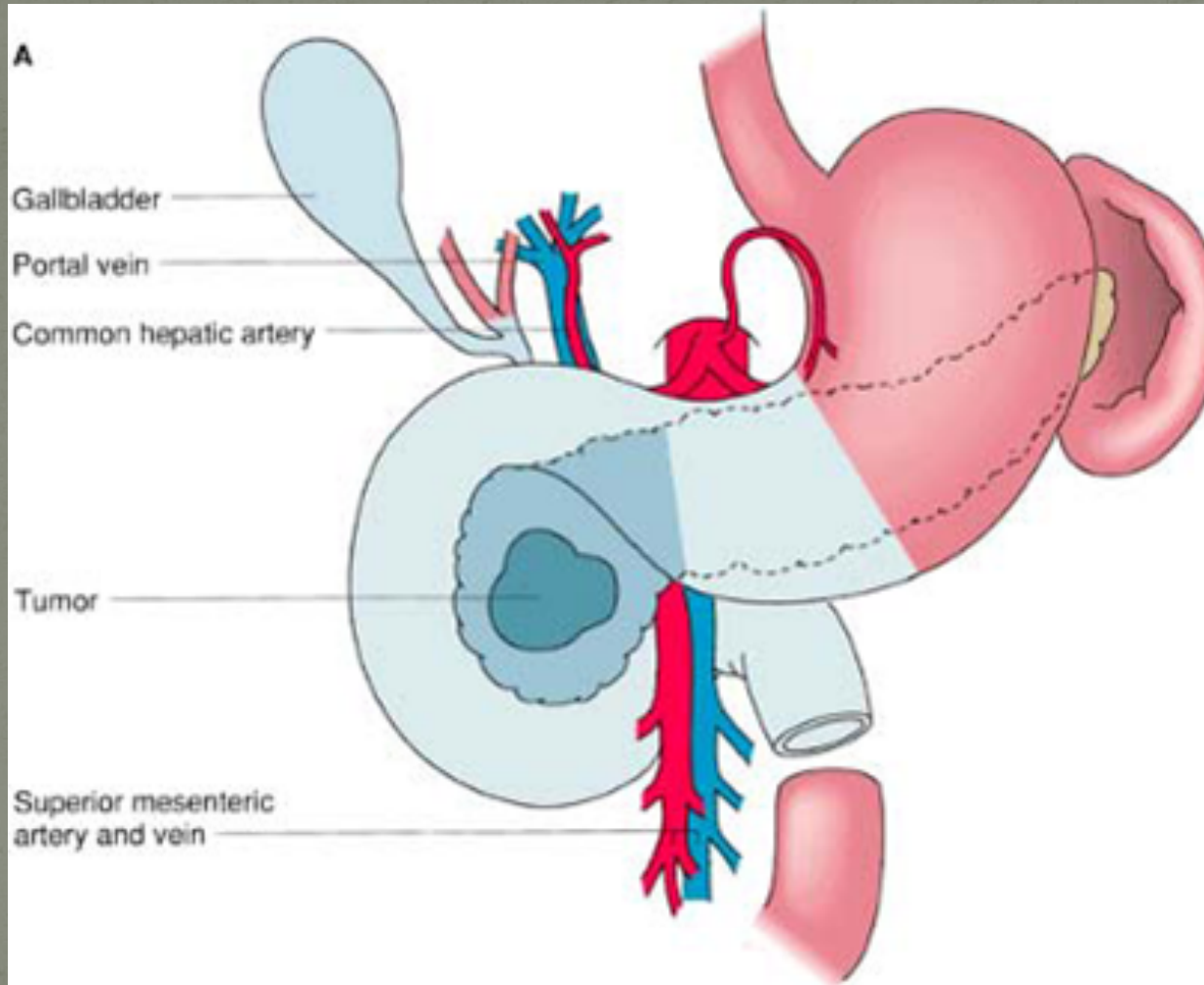


Diagnosis and management of pancreatic cancer

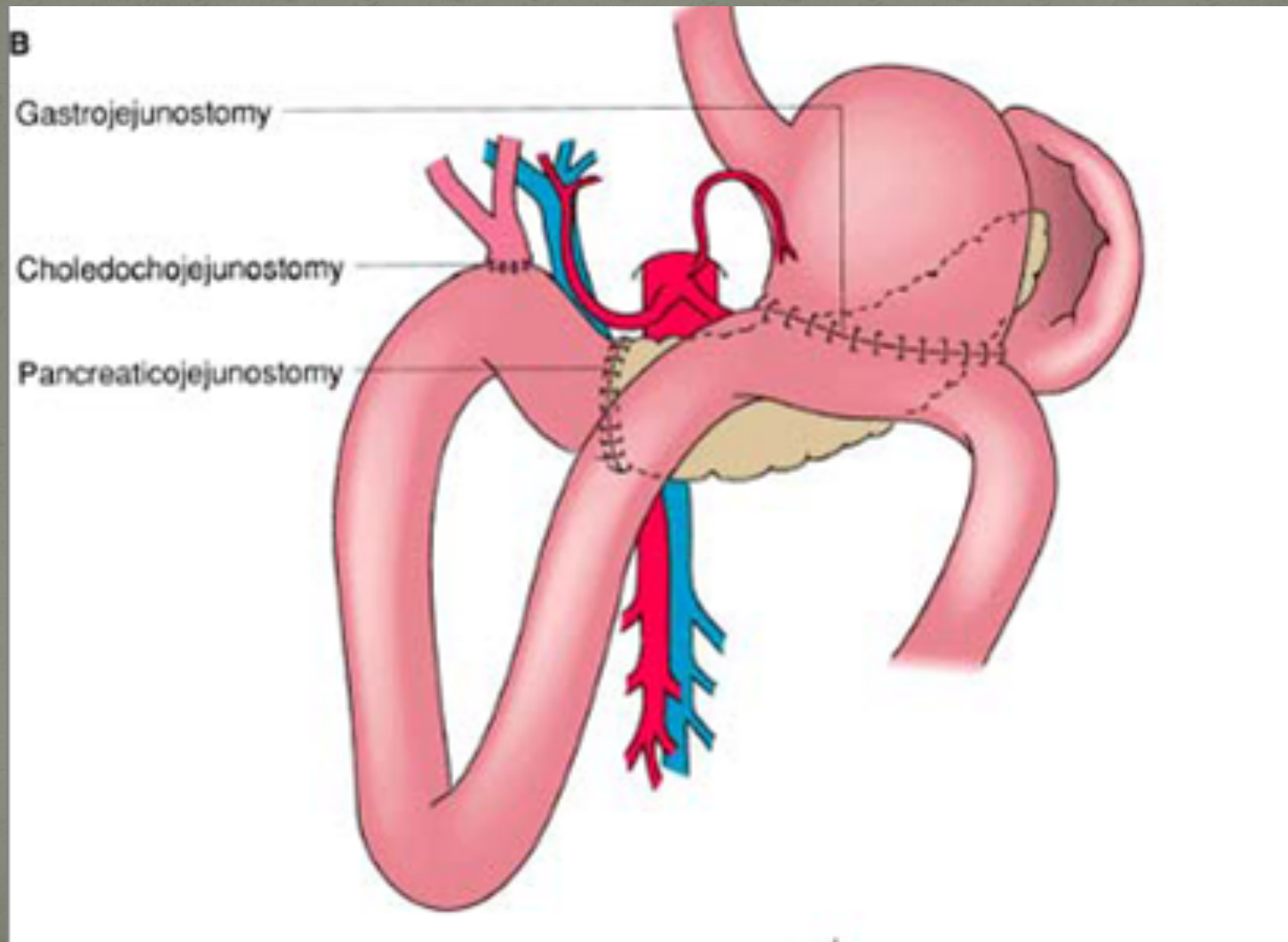


ALGORITHM 56.1

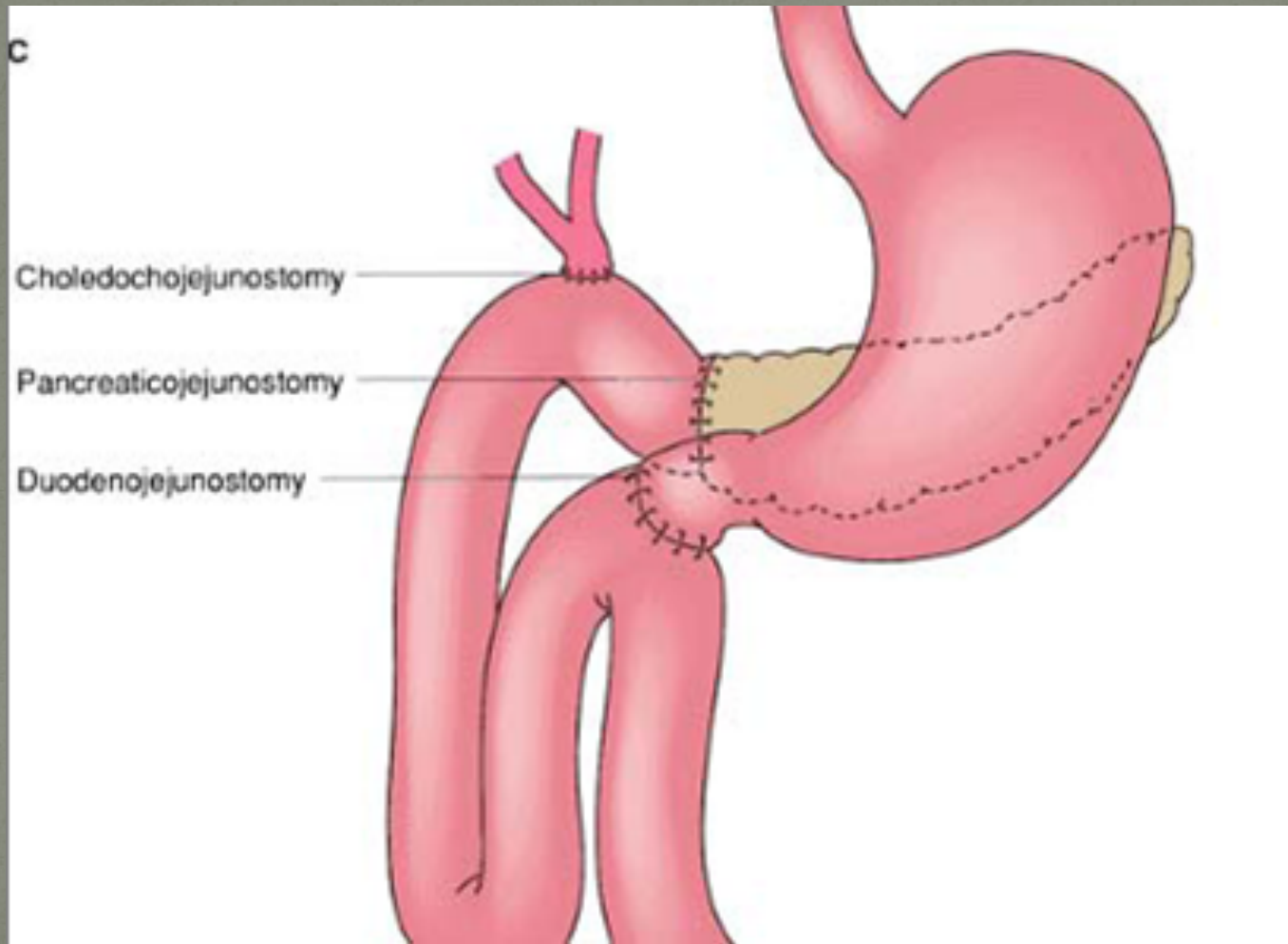
Pancreaticoduodenectomy. (A) *The tissue to be resected in a standard pancreaticoduodenectomy*



(B) Reconstruction after a standard pancreaticoduodenectomy



(C) Reconstruction after the pylorus-sparing variation.



COMPLICATIONS: COMPLICATIONS AFTER PANCREATODUODENECTOMY

● COMMON

- Delayed gastric emptying
- Pancreatic fistula
- Intraabdominal abscess
- Hemorrhage
- Wound infection
- Metabolic
 - Diabetes
 - Pancreatic exocrine insufficiency

● UNCOMMON

- Fistula
 - Biliary
 - Duodenal
 - Gastric
- Organ failure
 - Cardiac
 - Hepatic
 - Pulmonary
 - Renal
- Pancreatitis
- Marginal ulceration

Adjuvant therapies

- Although some controversy exists, most data support the role for patients following resection of a pancreatic cancer of-
 - **adjuvant therapy, either**
 - chemotherapy or
 - Chemoradiation
- Surgical palliation of patients with pancreatic cancer located in the head found to be unresectable at laparotomy includes the following for palliation
 - **biliary bypass - jaundice**
 - **Gastrojejunostomy - duodenal obstruction**
 - **chemical splanchnicectomy - pain**