Essential Learning
Pancreatitis

- **How does pancreatitis present?**
    - "Classic" presentation: nausea, vomiting, epigastric pain radiating to the back
    - Most common findings: fever (76%), tachycardia (65%), and guarding (68%)
    - Atlanta Criteria (2 of 3 required)
        - Mid-epigastric abdominal pain
        - Lipase 3x upper limit of normal
        - Confirmatory imaging findings
    - Lipase and amylase are typically elevated but may be normal in chronic pancreatitis.

- **What are the causes of pancreatitis?**
    - Most common causes are gallstones and ethanol
    - Mnemonic for recalling some of the causes of pancreatitis- I GET SMASHED
        - **I:** idiopathic
        - **G:** gallstones
        - **E:** ethanol (and methanol)
        - **T:** trauma
        - **S:** steroids
        - **M:** malignancy, mumps (and Coxsackie, hepatitis, EBV, adenovirus, Salmonella, Strep, Legionella, Mycoplasma)
        - **A:** autoimmune
        - **S:** scorpion stings/spider bites
        - **H:** hyperlipidemia/hypercalcemia/hyperparathyroidism (and other metabolic disorders like DKA and uremia)
        - **E:** ERCP
        - **D:** drugs (thiazides, salicylates, acetaminophen, antibiotics, estrogens)

- **What is necrotizing pancreatitis, interstitial pancreatitis, and pancreatic pseudocyst?**
    - Necrotizing pancreatitis
        - Defined as diffuse or focal areas of nonviable pancreatic parenchyma > 3 cm in size or > 30% of the pancreas
        - Can be sterile or infected
        - Also includes extra-pancreatic necrosis
        - High mortality (mean 30%) for infected pancreatic necrosis
    - Interstitial pancreatitis
        - Edematous pancreas without necrosis
        - Seen in mild disease
    - Pancreatic pseudocyst
        - Localized fluid collection inside a non-epithelialized wall of fibrous and granulation tissue
        - Contains pancreatic enzymes

        - Typically seen several weeks after onset
        - Different from acute fluid collections, organized necrosis, and abscesses

- **What are the indications for imaging in pancreatitis?**
    - Uncomplicated mild pancreatitis does not warrant imaging
    - Guidelines recommend that CT imaging be reserved for patients with unclear diagnosis, evidence of severe disease with multi-organ system involvement, failure to improve within 48-72 hours, or to evaluate for complications
    - CT may not rule-out necrosis if performed within 72 hours from onset of symptoms

- **How do I risk stratify and disposition patients with pancreatitis?**
    - Ranson's Criteria
    - Apache II
    - BISAP (Bedside Index for Severity in Acute Pancreatitis)

- **What medications should be given for pancreatitis?**
    - Pain control
        - Opioids are the mainstay of treatment for pain
        - NSAIDS may worsen pancreatitis and should be avoided.
    - Antibiotics
        - Give for extra-pancreatic infections (bacteremia, cholangitis, etc.)
        - No role for prophylactic antibiotics in patients with sterile necrosis (i.e., no signs of infection)
        - Treat infected necrosis with antibiotics that penetrate pancreatic necrosis (carbapenems, piperacillin/tazobactam, quinolones, metronidazole)

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