ACUTE PANCREATITIS

(Last updated 07/23/2019; Reviewed by: Sidhant Singh MD; Bibek Karki MBBS)

PRESENTING COMPLAINTS: Severe abdominal pain, nausea, vomiting

FINDINGS

- **A** Check airway
- **B** ↑ / N RR
- **C** ↓ / N BP, ↑ HR, weak/N pulse
- **D** Usually awake unless shock, then variable altered (VPUD)*
- **E** Fever +/-, abdominal tenderness, distension, sometimes icterus, abdomen bruising (Turner Sign)
- **L_{PC}** ↓ / N Hb, ↑WBC, ↑ Lactate, ↓ PCO2, ↓ Ca, Blood Type & cross match
- **U_{PC}** Pericholecystic fluid collection with wall thickening (suggestive of presence of gall stones)

***V** (verbal), **P** (pain), **U** (unconsciousness), **D** (delirious)

U_{PC} (point of care ultrasound) **L_{PC}** (point of care labs)

OTHER HISTORY

- **Predisposing Conditions**
  - Biliary colic/stones, alcohol abuse, cystic fibrosis personal or family history, hypertriglyceridemia, biliary endoscopic procedure, abdominal surgery, recent abdominal trauma
  - Medications (Anti-epileptics (Valproate), steroids, anti-retroviral (like didanosine), 6-mercaptopurine, azathioprine, pentamidine)
  - Other causes: Hypercalcemia, idiopathic, Infections (Mumps, coxsackie virus, CMV, VZV, legionella, leptospira, cryptosporidium)
- **Symptoms**
  - Diarrhea, chills, dyspnea, bad breath, anorexia, weight loss, hiccups, indigestion
- **Signs**
  - Epigastric tenderness, rebound tenderness, bleeding or discoloration in periumbilical and/or flank (Grey turner and Cullen sign), signs of alcoholic liver cirrhosis

DIFFERENTIAL DIAGNOSES

- Acute mesenteric ischemia, perforated peptic ulcer, cholangitis, cholelithiasis, cholecystitis, aortic dissection, acute myocardial infarction, acute peritonitis

OTHER INVESTIGATIONS

- **Lab Findings**
  - CBC: elevated leukocyte count, thrombocytopenia, elevated amylase and lipase (more specific), hypocalcemia, hypo- or hyperglycemia
  - Liver function tests: biliary cause (elevated direct bilirubin) and alcohol induced (SGOT > SGPT)
  - Renal function test, including BUN and creatinine
  - ABG: hypoxemia, especially when ARDS develops
  - Blood culture to rule out underlying sepsis
  - Inflammatory markers, like CRP
- **Imaging**
  - **Contrast enhanced CT abdomen**
    - Most widely used imaging modality
    - Useful in case where acute attack in underlying chronic pancreatitis is suspected
    - Diagnose and monitor the development of pancreatic cyst or necrosis
  - **MRI t**o assess peripancreatic inflammatory collections and pancreatic necrosis
  - **USG i**f gall stone pancreatitis is suspected (history and labs)

THERAPEUTIC INTERVENTIONS

- **Severity Score**
  - Important for delineation the pathway of management
- **Mild acute pancreatitis**
  - Most common form, no organ failure or local or systemic complications, usually resolves in the first week
- **Moderately severe acute pancreatitis**
  - Presence of transient organ failure (<48hrs), local complications or exacerbation of co-morbid disease
- **Severe acute pancreatitis**
  - Presence of persistent organ failure (>48 hrs)
- **Medications**
  - Most common approach is conservative and supportive treatment: Early fluid replacement, adequate analgesia, enteral (preferred) or parenteral nutrition (do not delay enteral nutrition)
  - If PO is not possible, consider: Naso-enteral feeding, vasopressor and respiratory support, antibiotics only when infection suspected (no prophylactic antibiotics)

- **Monitor**
    - Clinically improvement and any sign of deterioration: If multiorgan failure suspected, ICU admission
    - Labs: Serial amylase and lipase, CRP, other blood test like CBC
    - CECT and MRI for the appearance and change in size of pancreatic necrosis/abscess
- **Procedures**
    - Endoscopic retrograde cholangiopancreatography for biliary stone pancreatitis
    - Endoscopic source control intervention for pancreatic necrosis, necrosectomy
        - Usually later in the course of illness with organized liquid collections on imaging
- **Consultation**
    - ICU admission, if multiorgan failure develops
    - Surgery: For cholecystectomy and/or ERCP; For necrosectomy or abscess drainage
    - Vascular surgeon: For formation and rupture of pseudoaneurysm

CAUTIONS

- **Complications**
    - Sepsis, shock, ARDS, renal failureterile or infected pancreatic necrosis, pancreatic abscess or pseudocyst, hemorrhagic pancreatitis

REFERENCES & ACKNOWLEDGMENTS

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