Surgery Shelf Review

For questions:
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General Advice

• Get sleep
• 2 hrs 45 min/110 Questions = 1.5 minutes/Question
  – ** cannot leave within last 15 minutes
• Start of the exam has the hardest questions
• Resuscitate (ABC’s)/Diagnose/Treat
• Age of Patient/Time course/Severity
• Have Faith in your Education!!!!!
A 60 year old man presents to the Emergency Room vomiting bright red blood. He is afebrile, heart rate is 120, blood pressure is 90/60. He has moderate epigastric tenderness. The next step in management is:

A. Emergent exploratory laparotomy
B. IV Ranitidine
C. Rapid infusion of 0.9% saline IV
D. Nasogastric lavage
E. Emergent endoscopy

YES, THAT IS THE CORRECT ANSWER

...BUT IT IS NOT THE MOST CORRECT ANSWER
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B. IV Ranitidine
C. Rapid infusion of 0.9% saline IV
D. Nasogastric lavage
E. Emergent endoscopy
Normal Films

spinal process

scapula

anterior rib

bronchial bifurcation

vascular hilum

posterior rib

right atrium

liver

trachea

clavicle

aortic knob

left bronchus

hilum

descending aorta

diaphragm
Normal Films

"Your X-ray showed a broken rib, but we fixed it with Photoshop."
Normal Films
SBO
SBO
Colon cancer

Apple-core lesion
Gallstone ileus

Pneumo-bilia
Question

87 y/o M presents to ED with n/v for 2 days. CT scan shows air in the gallbladder, air-fluid levels in small intestines, transition point in the distal small intestines. Operative management requires which of the following?
A. Cholecystostomy
B. Stricturoplasty
C. Enteroscopy
D. Enterotomy
E. Cholecystectomy
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A. Cholecystostomy
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C. Enteroscopy
D. Enterotomy
E. Cholecystectomy
84 y/o F nursing home resident presents to ED with acute abdominal pain, n/v. HR 90, BP 130/70, distended tympanic abdomen, non-peritonitic. WBC 11, KUB: What is the next best step?
A. Ex-lap
B. Sigmoidoscopy
C. Cecostomy
D. Neostigmine
E. Water-soluble contrast enema
Question

84 y/o F nursing home resident presents to ED with acute abdominal pain, n/v. HR 90, BP 130/70, distended tympanic abdomen, non-peritonitic. WBC 11, KUB: What is the next best step?
A. Ex-lap
B. Sigmoidoscopy
C. Cecostomy
D. Neostigmine
E. Water-soluble contrast enema
Sigmoid Volvulus

“Bent inner tube”
Achalasia

“Birds beak appearance”
Chest X-rays

Simple PTX
Chest X-rays

Tension PTX
Free Air
Chest X-rays

Hiatal Hernia
Subtle Hiatal Hernia – retrocardiac soft tissue mass

More Obvious Hiatal Hernia with air-fluid levels
Chest X-rays

Atelectasis/PNA
Chest X-rays

Cancer
Electrolytes

• **High Calcium >11**
  • "Bones, stones, groans, and psychiatric overtones"
  • Short QT
  • DDx (Hyperparathyroid (adenoma vs hyperplasia/CA/Sarcoid))

• **Low Calcium**
  • Trousseau/Chvostek’s (cheek) sign
  • Long QT

• **High Potassium → 5.5 Wide QRS/Peak T**
  • **Deadly!!**
  • C BIG K Drop = Calcium/Bicarb/Insulin&Glucose/Kayexylate/HD/(Lasix&Fluid)…beta-agonist

• **Low Potassium—Flat T/ Long QT**
  • Replace Mg+ and K+

• **TPN**
  • Protein is 1-2 g/kg=70-140g protein
  • Fat is 9cal/gram. Carb/Protein is 4cal/gram
Trauma

- GSW to abdomen goes to the OR
- Knife to abdomen gets local exploration vs. OR
  - OR if penetrates fascia
- Chest trauma and Low BP think PTX/hemothorax

- Pelvic Fracture & blood at meatus gets urethrogram

- Pain with PASSIVE MOVEMENT=
  Compartment syndrome!!!

- Splenic Trauma is generally non operative (if not bleeding)
  - Splenic rupture=L shoulder pain/anemia
  - Pediatric Handlebar injury hurts spleen/liver/pancreas
## Shock

<table>
<thead>
<tr>
<th>Type</th>
<th>Cardiac Output</th>
<th>Systemic Resistance</th>
<th>Filling Pressure (CVP/PCWP)</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypovolemic</td>
<td>Low</td>
<td>High</td>
<td>Low****</td>
<td>Volume</td>
</tr>
<tr>
<td>Cardiogenic</td>
<td>Low***</td>
<td>High</td>
<td>High</td>
<td>Inotrope</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Fix Heart</td>
</tr>
<tr>
<td>Distributive (Septic)</td>
<td>High</td>
<td>Low****</td>
<td>Normal</td>
<td>Pressors</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Fix Pt</td>
</tr>
</tbody>
</table>

Tamponade/Tension PTX has Low CO/High CVP
Neurogenic shock = lose sympathetic drive, low SVR, low CO
## Blood Gas

<table>
<thead>
<tr>
<th>pH</th>
<th>pCO2</th>
<th>pO2</th>
<th>HCO3</th>
<th>Dx</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.4</td>
<td>40</td>
<td>100</td>
<td>23</td>
<td>NL</td>
</tr>
<tr>
<td>7.2</td>
<td>50</td>
<td>100</td>
<td>25</td>
<td>Resp Acid</td>
</tr>
<tr>
<td>7.2</td>
<td>30</td>
<td>100</td>
<td>18</td>
<td>Met Acid</td>
</tr>
<tr>
<td>7.5</td>
<td>30</td>
<td>100</td>
<td>20</td>
<td>Resp Alk</td>
</tr>
<tr>
<td>7.5</td>
<td>50</td>
<td>100</td>
<td>28</td>
<td>Met Alk</td>
</tr>
</tbody>
</table>
Question

Patient is intubated in ICU transferred 2 hours ago due to resp. distress after prolonged lap incisional hernia repair. ABG: PaO2 80, pH 7.30, PaCo2 57, O2 sat 95% FiO2 .4. Which is true?

A. You should increase minute ventilation
B. You should add PEEP
C. There is metabolic alkalosis with respiratory compensation
D. Renal compensation will completely resolve the abnormality
E. It is consistent with excessive NG fluid loss
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Heart

- Stress/Cath if coronary concern
- ECHO if valve concern
  - Mitral Stenosis blame Rheumatic Fever

- CHF = High PCWP
- ARDS = Low/NL PCWP
  ARDS criteria?? b/l infiltrates, PCWP<18, & PaO2/FiO2 ≤200.

- MI 5 or so days ago and DECOMPENSATE??
  Papillary muscle rupture/MR
  VSD: new, harsh loud holosystolic murmur
  LV rupture
Lung

- Remember ABC’s
- Review Lung Volumes
- Thoracic Duct injury = Milky chylous effusion
- SOB after a Central line is a Pneumothorax!!!!
- Tachy/R heart strain/Desaturation is PE

- Ship Yard/Asbestos=Mesothelioma (pleural)
  Asbestos bigger risk factor for lung cancer or mesothelioma?
Question

Respiratory rate
A. Affects PaCO2
B. Affects PaO2
C. Both
D. Neither
Question

Respiratory rate
A. Affects PaCO2
B. Affects PaO2
C. Both
D. Neither
Question

Cardiac Output
A. Affects PaCO2
B. Affects PaO2
C. Both
D. Neither
Question

Cardiac Output
A. Affects PaCO2
B. Affects PaO2
C. Both
D. Neither
Positive end-expiratory pressure
A. Affects PaCO2
B. Affects PaO2
C. Both
D. Neither
Question

Positive end-expiratory pressure
A. Affects PaCO2
B. Affects PaO2
C. Both
D. Neither
Questions

Which is NOT an effect of increasing PEEP?
A. Decreased FRC
B. Improved lung compliance
C. Alveolar overdistension
D. Recruits collapsed alveoli
E. Increased intrathoracic pressure
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Questions

Increased extracellular fluid volume
A. Hyponatremia
B. Hypernatremia
C. Both
D. Neither
Questions

Increased extracellular fluid volume
A. Hyponatremia
B. Hypernatremia
C. Both
D. Neither
Questions

Decreased extracellular fluid volume
A. Hyponatremia
B. Hypernatremia
C. Both
D. Neither
Questions

Decreased extracellular fluid volume
A. Hyponatremia
B. Hypernatremia
C. Both
D. Neither
Hyponatremia

• Hypovolemic
  – GI loss (vomiting/diarrhea), renal (diurectics), sweat (marathoners), burns

• Euvolemic
  – SIADH, primary polydipsia, low PO Na intake

• Hypervolemic
  – CHF, cirrhosis
Hypernatremia

• Due to dehydration- free water losses or increases Na intake (not hypovolemia)
  – Skin
    • Fever, exercise, exposure to high temps
  – GI
    • Osmotic diarrhea
  – Renal
    • Diabetes insipidus, osmotic diuresis
  – Salt poisoning
    • Hypertonic saline admin., salt loading, salt baths
Hypernatremia
Urine Osmolality (normal 600-900)

• Low-normal (<300)
  – Diabetes insipidus
• Intermediate (300-600)
  – Osmotic diuresis, DI
• High (>600)
  – Extra-renal water losses
Questions

30 y/o M intubated s/p fall from 20 feet in ICU with pelvic and thoracic spine fractures, flaccid, warm b/l Les, bradycardia, hypotension, negative CT of c/a/p. Next best therapy?
A. IV dobutamine
B. IV phenylephrine
C. Transfuse RBCs
D. IV corticosteroids
E. IV antibiotics
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55 y/o F with severe RA in ICU with tachycardia, hypotension, fever after recent negative ex-lap. Next best therapy?

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30 y/o M s/p MVC p/w sternal fracture, tachycardia, hypotension, pelvic fracture. Negative FAST. Next best therapy?

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Question

Emaciated, hypovolemic 68 y/o M with partially obstructive midesophageal adenocarcinoma is resuscitate w/ 0.9% NaCl and then 20% dextrose-based TPN. Which of the following can be anticipated in the first 24 hrs?

A. Hypophosphatemia
B. Hyperkalemia
C. Hypermagnesemia
D. Hypocalcemia
E. Sodium wasting
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Shelf Exam Review
Part II

• 2 hrs 45 min/110 Questions=1.5 minutes/Question
  – ** cannot leave w/in last 15 minutes

• https://radiopaedia.org/
Brain and Nerves

• Alcohol Withdrawal: 1-3 days after last drink/agitation
  – Usually > 48 hours post-op, fevers, MS changes, diastolic HTN, tachycardia, tremors, hallucinations
  – Tx: benzos

• Epidural hematoma has a lucid interval
  – Middle meningeal artery injured sheared
  – Lens shaped deformity

• Deep Peroneal Nerve injury (anterior compartment)
  – Foot drop/ Numb dorsum of foot (1st and 2nd toes)
Non-contrast Head CT so you can see blood!!!!

Focal vs Diffuse neuro signs

- Intraparenchymal hemmorrhage
- Epidural hematoma
- Acute subdural hemorrhage
- Acute subarachnoid hemorrhage
Question

A left nonrecurrent laryngeal nerve is associated with which of the following?
A. Situs inversus
B. Aberrant left subclavian artery
C. Branchial cleft anomalies
D. Trisomy 21
E. Tracheoesophageal fistula
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All of the following are true with spinal accessory nerve injury EXCEPT

A. It is a significant source of malpractice litigation
B. It results in atrophy of the trapezius muscle
C. Patients present with symptoms that include dull ache of the shoulder region and inability to use the affected arm overhead
D. It results in severe sensory loss to the posterior neck and shoulder
E. Early repair has the best chance of good recovery
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Vascular

• Abdominal Aortic Aneurysm (AAA)
  – OR: 2x normal size, ≥5.5cm, growth ≥.5cm in 6mo
  – Open vs EVAR?

• Thoracic Aortic aneurysm (TAA)
  – Operate when 2x normal size, ≥7cm if risk OK, ≥6cm for Marfan’s

**Oversimplification: Increased rupture risk for Ascending at 6 cm and for Descending at 7cm; so open repair at 5.5 and 6.5, respectively.

• Aortic Dissection
  – Ascending needs operation NOW
  – Descending: OR if organ dysfunction/rupture/aneurysm

• Complications?
  – Open: AE fistula, bleeding, ischemia
  – Endo: leak, infection
  – TAA: paralysis
Vascular

- Venous ulcers are around malleolus
- Venous problems cause swelling

- Arterial ulcers are distal
- Arterial lesions do not swell

- Vascular pain is predictable
- Treat Claudication with exercise & no smoking
  - Then ABI……Then dye study
    - ABI < 0.9 – claudication
    - ABI < 0.6 – rest pain
    - ABI < 0.5 - ulcers
Question

The right adrenal vein drains into which of the following veins?
A. Inferior vena cava
B. Right renal vein
C. Right gonadal vein
D. Splenic vein
E. Portal vein
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A 65-year-old man is referred for evaluation of an infrarenal abdominal aortic aneurysm. Over the past 12 months, serial ultrasound studies have revealed that the aneurysm has increased in diameter from 4.7 to 5.0 cm. Which of the following is the most appropriate next step in management?

A. CT angiography
B. Non-contrast CT abdomen
C. Repeat ultrasound in 3-6 months
D. Dobutamine ECHO and PFTs
E. Open repair of aneurysm
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A 55-year-old man presents with an ulcer of the medial malleolus. The ulcer has been present for 6 months and is healing slowly with compression bandages. He has no other complaints. Which of the following tests is the most appropriate to examine the underlying abnormality as a cause for a slowly healing wound?

A. Wound swab bacterial culture  
B. MR venography of the pelvic veins  
C. Duplex ultrasound of superficial and deep veins of involved extremity  
D. Leg venography  
E. Wound biopsy
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D. Leg venography
E. Wound biopsy
Esophagus/Stomach

• Zenker’s--Regurgitation/Smelly Breath
  – UGI/Swallow
  – Diverticulectomy, Cut the cricopharyngeus
  – True vs false diverticulum?
  – Pulsion vs traction diverticulum?

• GERD: cough, sore throat in AM, obesity, hiatal hernia

• What is Boerhaave’s syndrome?
  – Forceful vomiting → chest pain
  – Most likely to occur 3-5cm above GE junction
  – Diagnosis?
    – Gastrograffin swallow study

• EGD w/ pain/fever after needs swallow
  – Free contrast into mediastinum needs drainage
  – Small tear without perforation can be observed
Esophagus/Stomach

- EGD with Barrett’s needs antiacid/antireflux
  - What is Barrett’s?
  - High-grade dysplasia/CA need esophagectomy

A. Mucosa of gastroesophageal junction with esophagitis
B. BE without dysplasia
C. BE with low-grade dysplasia
D. BE with high-grade dysplasia
E. Adenocarcinoma
Liver

- Cirrhosis
  - High incidence of HCC

- Portal Vein Thrombosis
  - OCP/Cirrhosis
  - Esophageal Varices/Hemorrhoids/Splenomegaly
Question

A 35-year-old woman currently on oral contraceptives has a 12-cm lesion in the right lobe of the liver. On review of the triphasic CT scan, the arterial phase displays nodular peripheral asymmetrical enhancement on early phase imaging and delayed filling of the same area. Which of the following is the most likely diagnosis?

A. Adenoma
B. Hemangioma
C. Metastatic Neuroendocrine
D. Hepatocellular carcinoma
E. Focal nodular hyperplasia
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Solitary Liver Lesions

Benign:
- Hemangioma
  • Peripheral asymmetrical enhancement with delayed vascular filling
- Adenoma
  • Heterogenous enhancement on arterial phase, hypointense on venous phase
- Focal Nodular Hyperplasia (FNH)
  • Enhancement on arterial phase, difficult to see on venous phase
Solitary Liver Lesions

- Malignant:
  - HCC
  - Hypervascular enhancement on arterial phase, portal venous washout on venous phase
- Metastatic (neuroendocrine):
  - Hypervascular on arterial phase, hypoattenuating on venous phase
Biliary

- Cholecystitis does NOT make you YELLOW!!!!!

A Cholelithiasis (Gallstone) Biliary Colic
  OR Electively
B Cholecystitis >4 hours of Pain
  US->Gallstone, Thick GB, “pericholecystic fluid”, sonographic Murphy’s
  Antibiotics and OR soon
C Choledocholithiasis
  High Alk Phos & T bili
  US-> Dilated CBD
D Cholangitis-CBD stone & INFLAMMATION!!!!
  RUQ pain/Jaundice/Fever/ CAN GET VERY SEPTIC!!!!!!!
  Dilated CBD/High Alk Phos&Tbili
  Antibiotics and ERCP Decompression
E Gallstone Pancreatitis
  Cholecystectomy when Amylase/Lipase/Sx normalize
F PSC (Primary Sclerosing Cholangitis)
  Intra and Extra Hepatic Ducts
  High Alk Phos
G PBC (Primary Biliary Cirrhosis)
  Intra Hepatic Ducts
  High Alk Phos
Question

Which of the following statements about the critical view of safety related to cholecystectomy is TRUE?

A. Intraoperative cholangiogram is an essential element
B. Common bile duct identification is mandatory
C. Identification of the funnel from the gallbladder to the cystic duct confirms the anatomy
D. Three structures, including the posterior cystic artery, are seen passing to the gallbladder in the critical view
E. Safe cholecystectomy requires delineation of the relevant anatomy
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Pancreas

- Pancreatic CA
  - Painless Jaundice
  - Weight Loss
  - Left supraclavicular LAD
  - Distended, palpable gallbladder
  - Periumbilical nodule

- Pancreatic Pseudocyst
  - Due to Pancreatitis
  - Drain perc vs open (cystgastrostomy) (wait 6 weeks), > 6cm
Gut

- Bleed/Obstruct/Perforate/Cancer/Intractable
- Words like “free air” “rigid abdomen” go to OR!

- SBO- Vomit. No BM. No Flatus. Distended. +KUB
  - OR for Complete SBO/Incarcerated Hernia/Fever
  - NG if partial
"Pain out of proportion to exam"
Hx: A-Fib
Labs: ↑WBC

Mesenteric Ischemia (ACUTE)

Causes? (4-5)

1. Occlusive
   1. Arterial
      1. Embolism
      2. Thrombosis
   2. Venous
      1. Thrombosis

2. Non-Occlusive
   1. Low-Flow State
      → mesenteric vasoconstriction
   2. Vasopressors
Gut

• Pain in Appendicitis
  – Early is visceral pain localizing to belly button
  – Late is RLQ pain from inflammation against abdominal wall.
  – E. Coli is common in perf appy
  – Can you manage appendicitis non-op?

• Ileum resection -> diarrhea
  – less bile salt absorption/less fat absorption

• “If the gut works use it!”

• NPO/TPN for fistula closure.
• ?FRIENDS
An otherwise healthy 16-year-old boy presents with 2 days of abdominal pain, nausea, and anorexia. His physical exam reveals a temperature of 37.4°C and mild involuntary guarding in the right lower quadrant. Rovsing, obturator, and psoas signs are negative. His white cell count is 12,500/mm³, and C-reactive protein is 18 mg/L. Ultrasound poorly visualizes the cecum; the appendix is not visualized. Which of the following is the next most appropriate step in his management?

A. CT abdomen with appendix protocol
B. Appendectomy
C. IV abx and serial abdominal exams
D. Meckel scan with technetium-99
E. Repeat ultrasound and CBC in 24 hours
Question

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Colon

- UC colon dysplasia -> TOTAL colectomy
- UC v Crohn’s
- Pelvic dissections can ruin sex and peeing
Locally aggressive, associated with familial adenomatous polyps:

A. Desmoid
B. Fibrous dysplasia
C. Chondrosarcoma
D. Osteochondroma
E. Primitive neuroectodermal tumors
Question

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C. Chondrosarcoma
D. Osteochondroma
E. Primitive neuroectodermal tumors
Anorectal

• Diarrhea but hard stool by DRE/KUB->Enema

• Anal Pain is…
  – Thrombosed External hemorrhoid
  – Anal Fissure
  – Perirectal abscess (Pilonidal cyst is superior)
Peds Surg

- Child with acute SOB = foreign body aspiration
- Pyloric Stenosis -- Non bilious Vomiting
  - Treatment?? pyloromyotomy
- Malrotation -- Bilious Vomiting!!! --> Emergency!!
Question

A 2-year-old child is brought to the emergency room with a history of choking, cyanosis, and coughing while eating peanuts. He is currently in no distress with normal vital signs. He has no stridor or wheezing on exam. A chest x-ray is normal. Which of the following is the most appropriate next step in his management?

A. Discharge home with routine follow up with pediatrician
B. Repeat CXR in 6 hours
C. Chest CT scan
D. Rigid bronchoscopy with general anesthesia
E. Flexible bronchoscopy with conscious sedation
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Question

A 3-year-old boy presents to the emergency room with a 10-hour history of intermittent, severe abdominal pain and bloody, mucoid stools. On examination, he is hemodynamically normal. Abdominal exam reveals a palpable sausage shaped mass. The next appropriate step in the management of this patient is:

A. CT abdomen and pelvis
B. MRI abdomen and pelvis
C. Hydrostatic air enema
D. Diagnostic laparoscopy
E. Exploratory laparotomy
Question

A 3-year-old boy presents to the emergency room with a 10-hour history of intermittent, severe abdominal pain and bloody, mucoid stools. On examination, he is hemodynamically normal. Abdominal exam reveals a palpable sausage shaped mass. The next appropriate step in the management of this patient is:

A. CT abdomen and pelvis
B. MRI abdomen and pelvis
C. Hydrostatic air enema
D. Diagnostic laparoscopy
E. Exploratory laparotomy
Peds Surg

• Intussusception-->
  "Knees drawn up"
  – Currant jelly stool is usually late
  – 95% are ileocolic in peds
  – Primary vs. Secondary
  – Treatments
  – Adult → OR

Enema: air or gastrograaffin
OR!!!
Peds Cards

• Note if the child is BLUE??
  Noncardiac vs non-cardiac

4 Ts - Tetrology of Fallot
  Truncus arteriosus
  TGA
  Tricuspid valve

• Coarctation has
  – Variable BP/Pulses
  – Rib Notching
  – Associated with Turner’s
10 y/o M w/o significant PMH p/w swelling and erythema of L neck. Fever to 39.4°C, central fluctuance over swelling, intact airway. In addition to IV abx, what is the next appropriate step in management?

A. Percutaneous aspiration
B. Percutaneous catheter drainage
C. Medical treatment for tuberculosis
D. Surgical incision and drainage
E. Incisional biopsy
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A 3-year-old boy who developed a neck mass after an upper respiratory infection:

A. Branchial cleft sinus
B. Thyroglossal duct cyst
C. Branchial cleft cyst
D. Cervical sinus
E. Dermoid cyst
Question

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Renal

• Blood in urine
  – Pain is a stone.
  – No pain is CA (renal/bladder/prostate)

• Renal Transplant failure
  – Minutes --> Hyperacute rejection (preformed antibody)
  – Hours --> Poor bloodflow vs ATN
  – Week/Months --> Acute rejection (T cells**/Eosinophils/Plasma Cell/PMN)
  – Months/Years --> Chronic rejection (Vascular fibrosis)

• Know about renin/aldosterone (hold Na/waste K)
  – Renin released in response to... low BP
  – Renal artery stenosis (HTN and one small kidney)
Endocrine

• Adrenal Masses > 4cm or functional come out
  – Aldosteronoma:
    • hypernatremia, hypokalemia, metabolic alkalosis
  – Pheochromocytoma:
    • elevated urine metanephrines/VMA (24-hr)

• Gastrinoma:
  – Excessive acid production, Elevated fasting serum gastrin, elevated gastrin on secretin-stim test

• Insulinoma:
  – Whipple’s Triad: hypoglycemia sx, FG<45, reversible with glucose
  – Self insulin administration has low “C-peptide”

• Glucagonoma
  – Diabetes, dermatitis, diarrhea, DVT, depression

• Solitary Thyroid Nodule
  – FNA!!!!!
  – If follicular neoplasm, need lobectomy with possible completion
Endocrine**

- **MEN I** – 3 P’s, **MENIN** gene
  - Parathyroid (hyperplasia – first sx, first tx)
  - Pituitary (prolactinoma)
  - Pancreas (islet cell tumors, MC gastrinoma)

- **MEN II** – **RET** protooncogene
  - **MEN IIa**
    - Pheo (tx first)
    - Medullary cancer (thyroid, check calcitonin)
    - Parathyroid hyperplasia
  - **MEN IIb**
    - Pheo (tx first)
      - Must alpha-block before beta blockade
      - Phenoxybenzamine....propanalolol
    » Metyrasine (catechol inhibitor) also an option

- Medullary thyroid cancer
- Mucosal neuromas/Marfan’s habitus
A 33-year-old man had a total thyroidectomy at age 20 for medullary thyroid cancer. His father and sister were both treated for medullary thyroid cancer. His father died of a hypertensive crisis. His sister died during biopsy of an adrenal mass. The patient had a CT scan for flank pain (figure 1). Which of the following is the most likely diagnosis?

A. Familial medullary thyroid cancer
B. Conn syndrome
C. Cushing disease
D. MEN2a
E. Metastatic medullary thyroid cancer
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A 45-year-old woman with a history of hypertension undergoes CT of the abdomen and pelvis after presenting to the emergency room with right lower quadrant pain. The study is negative except for an incidentally found 3-cm mass in the right adrenal. Evaluation reveals elevated urine metanephrines. Based on these results, the lesion is most likely located in the:

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Spleen

- **Splenic Vein Thrombosis**
  - S/P pancreatitis
  - Gastric Varices without esophageal, NL Liver
  - Rx = Splenectomy

- **Accessory Spleen**
  - Absence of Howell-Jolly bodies s/p splenectomy
  - Need Spleen scan
  - MC location: splenic hilum

- **Post-splenectomy Sepsis (OPSS)**
  - S Pneumo  Prophylaxis=Penicillin  Rx=Vancomycin/Cefepime
  - N Meningitis
  - H Influenza  When to give?

- **Sickle Cell** – spleen autoinfarcts, no need for resection
Infectious Disease

- Drain pus (Septic joint/Abscess)
- HIV & bloody diarrhea is CMV
- Necrotizing fasciitis – *look for in pts with POD #0 & high fevers!*
  - Group A Strep/Clostridium/Polymicrobial
- Artificial Heart valve prophylaxis with Amoxicillin
- Fungus in a blood culture is NEVER a contaminant
  - Typical story – pt with PICC line on TPN
- Clostridium difficile –
  - Pt with diarrhea, high WBC (>30), abd pain
  - Check stool toxin (*Most sensitive test*)
  - Tx: Flagyl (IV/PO), Vanco (PO, can be used for pregnant women)
Testes/Ovary

- Undescended Testicle -- Get to scrotum by 1yr
  - Cancer risk unchanged, but have better surveillance
- Varicocele- ropy mass in upper scrotum
  - Decreases fertility, more common on the left
- Scrotal Swelling
  - Hydrocele -- Bag of fluid, Can transilluminate
  - Indirect Hernia -- Hernia sac & contents, No transillumination
  - Hesselbach’s Triangle – rectus, epigastrics, inguinal lig
- Testicle Pain -- Get Ultrasound for blood flow
  - Torsion -- No blood flow-->Need operation (need B/L pexy!)
  - Epididymitis -- Has blood flow-->Feels better with lifting
- Suspect Ovarian torsion --> Need pelvic US
  - Torsion needs an operation
29 y/o F presents to ED with LLQ pain, nausea, purulent vaginal discharge. Bimanual exam reveals tender mass in LLQ. Temp is 38.8C, WBC 14.2. CT scan reveals fluid collection in Left adnexa. Most appropriate management?

- Outpatient management with PO abx
- Admission with IV abx
- Diagnostic laparoscopy with removal of L adnexa
- Exploratory laparotomy and drainage of fluid collection
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Skin Stuff

Melanoma

Basal Cell CA

Squamous Cell CA

TNM stage?
Margins?
Types?
Location?

Types: Superficial spreading (most common), nodular (most aggressive), acral lentiginous (palms/soles), lentigo maligna (Hutchinson’s freckle)

Hemangioma

<table>
<thead>
<tr>
<th>Degree of Burn</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st degree burn</td>
<td>Sunburn</td>
</tr>
<tr>
<td>2nd degree burn</td>
<td>Blisters</td>
</tr>
<tr>
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A. Multi-agent chemotherapy
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C. Re-excision to achieve negative margins
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A. broad-spectrum iv abx are required
B. Clostridium perfringens is the most common bacteria
C. Most patients require 3 or more surgical debridements
D. Almost 50% are misdiagnosed on admission
E. A delay of surgery of more than 24 hours increases mortality
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Breast

- DCIS -- Precancerous …. found on mammography
  - Core needle biopsy
  - Rx Lumpectomy and XRT if localized

- LCIS -- Risk factor for breast cancer (ductal ca)
  - Management ranges from Screening to B/L mastectomy

- Ductal CA -- If mass then lumpectomy or mastectomy (poss XRT)
  - Survival of mastectomy is equal to lumpectomy with radiation
  - May need chemo, and/or tamoxifen
  - Sentinel node (always), nodal dissection if palpable mass or positive (CA) in Sentinel Node

- Inflammatory CA -- Very bad breast cancer. Often need Chemo/Radiation, then possible mastectomy, involves dermal lymphatics, “peau d’orange”

- BRCA1 – increased risk, +ovarian/endometrial
- BRCA2 – increased risk, associated with male ca (ductal)
Breast

• Breast cysts get drained
  • If go away then game over…………….If recur (or bloody) need resection

• Fibroadenoma -- Round well circumscribed mass
  • Excisional biopsy if >30 years (if less, can biopsy and monitor)

• Cystosarcoma phyllodes (aka Phyllodes tumor)
  • Wide Local Excision (never need SLN)
    – Cuz this is a sarcoma!

• Intraductal papilloma -- Bloody nipple discharge
  • Resection

• Paget’s -- scaly skin lesions of nipple, have underlying DCIS or ductal CA
  • Biopsy of nipple skin
  • Tx: Resection
A 44-year-old, premenopausal woman has right upper outer-quadrant breast calcifications noted on her yearly screening mammogram. She has no family history of breast cancer. She had her menarche at 14 years and delivered her first child at the age of 26 years. She has had no prior breast biopsies. Stereotactic core needle biopsy reveals lobular carcinoma in situ. Which of the following is the next most appropriate step?

A. Needle localized excisional biopsy
B. Prophylactic bilateral mastectomy
C. Raloxifene treatment for 5 years
D. “mirror image” biopsy of left breast
E. Annual mammography
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