### More ABSITE review

8 days and counting

# Topics

Vascular

Thoracic

Trauma/CC

Head/Neck

**Pediatric Surgery** 

# Vascular

- Quick Review:
  - Most common acquired hypercoagulable D/O
    - Smoking
  - Most common congenital hypercoagulable D/O
    - Resistance to activated protein C (Leiden factor)
  - CEA
    - Consider in patients with >70% stenosis and symptoms
    - Asymptomatic patients with 70-80% stenosis, more controversial
    - Perform in patients with >80% stenosis if able
    - Recent completed stroke, wait 4-6 weeks, then perform if meets criteria
    - Emergent CEA in patients with fluctuating neuro symptoms or crescendo/evolving TIAs

Concerning a femoropopliteal bypass: Which structure is anterior to the graft at midthigh?

a) gracilis

b) adductor magnus

c) rectus femoris

d) femoral vein

e) deep femoral artery

All of the following are true of popliteal artery aneurysms except:

a. The most common complication is ruptureb. Thrombosis can occurc. They are often bilateral

d. Emboli is the most common complication

A 70 year-old male is 3 months postoperative from an aortobifemoral revascularization for aortoiliac occlusive disease. He returns to the office complaining of pain and swelling in his right groin. On physical examination, the right groin appears fluctuant and tender. It drains 10 cc of clear, non-foul smelling material. What bacterial species is <u>most likely</u> to cause this infection?

- a) *Clostridium perfringens*
- b) *Staphylococcus aureus*
- c) Staphylococcus epidermidis
- d) Streptococcus pneumoniae
- e) Group A Streptococci

# Thoracic

Most common cause of anterior mediastinal mass in adults

– thymoma

Effort thrombosis of subclavian vein

 catheter-directed lysis and then 1<sup>st</sup> rib resection.

## PULMONARY CRITERIA

<u>Pneumonectomy</u>

<u>Lobectomy</u>

<u>nonoperable</u>

 MVV - maximal voluntary ventilation

 (% of predicted)
 > 55%
 > 40%
 < 35%</td>

 FEV1 (liter)
 > 2 L
 > 1 L
 < 0.6 L</td>

 FEV 25% - 75% (liter)
 > 1.6 L
 > 0.6 L
 < 0.6 L</td>



# More Thoracic

- Chylothorax Treatment
  - initially treat with drainage and TPN (1-2 weeks), unless tension cylothorax which requires thoracotomy and closure of duct.
- s/p R upper lobectomy (POD #1) with pain, hemoptysis and tachycardia
  - bronch to r/o middle lobe torsion.
- Pulmonary sequestration:
  - <u>Intralobar</u> systemic artery, pulmonary vein, no other anomalies
  - <u>extralobar</u> systemic artery and vein, no bronchial connection, diaphragmatic hernias.
- Rib notching :
  - coarctation of the aorta.

In a normal person sitting up, all of the following are true except:

- a.V/Q ratio is greatest at the apex
- b.V/Q ratio is lowest at the bases
- c. When supine for prolonged periods, V/Q ratio changes
- d.The V/Q ratio does not change with posture

Which lung cancer is most likely to be associated with a paraneoplastic syndrome?

a. Small cell lung CA (ACTH and ADH)
b. Adenocarcinoma
c. Squamous cell CA
d. Large cell CA

The most common structure involved in thoracic outlet syndrome is:

- a. The subclavian artery
- b.The subclavian vein
- c. The brachial plexus
- d. The sympathetic chain ganglia

A chylothorax is most common in the left chest following which of the following procedures:

a. CEA

#### b. Ivor Lewis esophagectomy

- c. Aortic arch aneurysm repair near the left subclavian
- d. CABG

A 65 yo man with COPD has lung cancer that you are contemplating resecting. You get pulmonary function tests which show an FEV-1 of 1400cc. This patient likely:

a. Could tolerate either pneumonectomy or lobectomyb. Could tolerate a lobectomy but not pneumonectomyc. Could tolerate a wedge resection but not lobectomyd. Could not tolerate any surgery

### Trauma

- MS changes after trauma and normal CT head
  - angiogram to look at carotids, anti-coagulate if there is injury.

You can declare someone brain-dead if they exhibit one of these?

a) hypothermia
b) gag reflex
c) corneal reflex
d) brisk deep tendon reflexes
e) pupillary light reflex

## NEUROTRAUMA

- Central cord syndrome
  - loss of distal upper-extremity pain and temperature and strength with relative sparing of lower-extremity strength and sensation.
- Brown-Sequard syndrome
  - loss of ipsilateral motor and contralateral pain and temperature as well as ipsilateral proprioception.
- Traumatic CSF leak is treated with
  - head elevation and bed rest.

## Trauma

- Common peroneal nerve injury
  - loss of sensation dorsum of foot, with weakened dorsiflexion, foot drop and toe drag, "slapping gait."
- Most sensitive clinical indicator of compartment syndrome is –
  - pain to passive stretch
  - first compartment usually affected is anterior compartment.
- Blunt trauma and CT scan which shows non-visualization of a kidney in a stable patient requires –
  - arteriogram.

A patient sustained a blunt MVA and was noted to have a liver injury which was managed non-operatively. Two months later, he develops hematemesis and melena. EGD and colonoscopy are noncontributory. What is the next most appropriate step in management?

- a) vagotomy and antrectomy
- b) vagotomy and pyloroplasty
- c) exploratory laparotomy and liver resection
- d) angiography and embolization
- e) observation

## **TETANUS PROPHYLAXIS**

<u>Tetanus immun. History</u>	<u>Clean Wound</u>	<u>"Tetanus-prone"</u>
Fully immun:last booster:		
– < 5 years	None	None
<ul> <li>– 5-10 years</li> </ul>	None	Toxoid booster
>10 years	Toxoid booster	Toxoid booster+TIG
Incompletely immun./	Toxoid+complete	Toxoid+TIG+
or uncertain history	immun.	complete immun.

# **Critical Care**

- Don't give succinylcholine in burns, neurologic injury, neuromuscular disorders, spinal cord injury, massive trauma, rhabdo, and ARF
- PEEP improves FRC and compliance.
- PEEP increases the FRC, and decreases the cardiac output.
- Aging causes a decreased FEV1 and Vital Cap, increased FRC.
- Most frequent site of aspiration is superior segment of RLL and posterior segment of RUL.
- Post-operatively, the most common cause of hypoxia is V-Q mismatch. A normal PCO<sub>2</sub> usually means adequacy of ventilation.

Which of the following is the best indicator of sepsis?

- a) tachycardia
- b) decreased oxygen consumption
- c) decreased cardiac output
- d) peripheral vasoconstriction
- e) decreased systemic vascular resistance

The most common cause of post-operative renal failure in a patient with normal pre-op renal function is:

a. Sepsis

b. Hypotension intra-op

c. Drug toxicity

d.Operative injury to the renal system

 All of the following are most often associated with a decreasein SVO2 (mixed venous oxygen saturation) except:

a.MI

b.Cardiac tamponade

c. Hemorrhagic shock

d.Septic shock

#### Treatment for methemoglobinemia is:

a. Amyl nitrate, then sodium nitrate
b. Methylene blue
c. Oxygen
d. Vitamin C

# BURNS

- Sulfamylon: painful, inhibits carbonic anhydrase and can cause
  - acidosis.
- Silver sulfadiazine: poor penetration, painless and causes
  - neutropenia/thrombocytopenia.
- Silver nitrate: leaching of electrolytes and can cause – alkalosis.
- Parkland formula

   (4.0 mL/kg/% burn)

## Head & Neck Anatomy

 The structure which lies immediately anterior to the anterior scalene muscle is the – phrenic nerve.

• The external branch of which nerve innervates the cricothyroid muscle:

- superior laryngeal nerve

- Most sensitive test for recurrent thyroid after total thyroidectomy and iodine ablation:
  - serum thyroglobulin.
- Drooping of the mouth after submandibular gland excision:

- marginal mandibular.

• Thyroid lymphoma –

- chemotherapy.

- Most common complication after mandible fx repair
  - malocclusion.
- Carotid body chemoreceptor, simple excision of tumors (don't go resecting any carotid arteries), tumors increased at high altitudes.

- Virus associated with Burkitt's lymphoma and nasopharyngeal cancer is
  - Epstein-Barr virus.
- Parotid tumor which is bilateral is
   Warthin's (papillary cystadenoma)
- Parotid tumor which invades the nerve is

   adenoid cystic.
- Mass in the neck should get – FNA.

- Gustatory sweating:
  - auriculotemporal nerve injury.
- Acinic cell carcinoma of the parotid should get:
  - superficial parotidectomy.
- Parotid tumor which tends to invade the facial nerve (CN VII):
  - adenoid cystic.

Which is the most common benign tumor of the parotid?

- A) Adenoid cystic
- B) Acinic cell
- C) Mucoepidermoid
- D) Pleiomorphic adenoma
- E) Warthins tumor

During the performance of a parotidectomy, you notice facial nerve involvement by the tumor. What is the most appropriate step in the management of the tumor.

- A) Resect the superficial parotid gland and radiate the facial nerve and deep portion of the gland.
- B) Abort the procedure since the patient is incurable.
- C) Resect the nerve and perform a nerve graft.
- D) Resect nothing and give chemotherapy and radiation therapy to the entire gland.
- E) Resect the nerve and plan on a staged repair of the facial nerve.

Which of the following is true concerning the thyroid gland?

a) Thyroid tissue found in the lateral neck compartments is known as lateral aberrant thyroid tissue and is an embryologic variation.
b) Any thyroid tissue found in lymph node tissue in the neck which is extrathyroid represents metastatic deposits from thyroid carcinoma.

c) Lingual thyroid results from a failure of the third pharyngeal pouch to descend in a normal fashion.

d) Lingual thyroid usually occurs in conjunction with normal anatomic thyroid tissue.

e) Lingual thyroid is best treated by surgical excision.

# Thyroid

- Thyroid tissue found in the lateral neck compartments may represent metastatic deposits from well-differentiated thyroid carcinoma. It is not lateral aberrant thyroid tissue and it is not an embryologic variant.
- Lingual thyroid results from a failure of the median thyroid anlage to descend in a normal fashion. It is usually the only thyroid tissue that remains and is best treated by:
  - suppression with thyroid hormone or radioactive iodine.
- Amyloid deposits in a thyroid mass:
  - medullary thyroid carcinoma.

A patient undergoes total thyroidectomy with right neck dissection. The surgeon injures the R hypoglossal nerve, the R superior laryngeal nerve, and the L recurrent laryngeal nerve. What deficits would you expect to find postoperatively?

	<u>Cord</u>	Tongue deviation
a)	L cord tensed	L
b)	L cord tensed	R
c)	R cord tensed	L
d)	R cord tensed	R
e)	both cords te	nsed L

## Pediatric Surgery

 Osteomyelitis in children tends to occur in the metaphysis of long bones and is most commonly due to staph.

# **Pediatric Surgery**

- Full length esophageal lye injury in child: – resect and replace with colon.
- Most common cause solid lung nodule in kid:
   metastatic (osteogenic sarcoma, Wilm's).
- Always sample nodes when operating on Wilm's.
- Well-differentiated thyroid CA in kids:
   ->50% nodal involvement, still good survival.
- Reduce malrotation with counterclockwise rotation.

Which of the following statements is true concerning congenital lobar emphysema?

- a) It is usually limited to the upper lobes and characterized by severe air trapping.
- b) Lung destruction associated with this condition is irreversible and often requires pneumonectomy.
- c) Treatment consists of conservative measures and rarely requires excision of the affected lobe.
- d) Most are located in the anterior mediastinum.
- e) Like intralobar pulmonary sequestrations, they drain into the azygous veins.

# Random but nearly always asked

• Sudden increase in end-tidal CO2 –

malignant hyperthermia

• Sudden decrease in end-tidal CO2 –

— PE