Deep Neck Space Abscesses and Life-Threatening Infections of the Head and Neck

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INTRODUCTION

▲ Life-threatening infections - rare
▲ Influence of antibiotics
▲ Lack of systemic signs and Sx
▲ Immunosuppression
ANATOMIC CONSIDERATIONS

- Teeth, tonsils
- Polymicrobial infections
  - 10:1 anaerobes
- Pathways of spread
  - fascial planes
  - intracranial
  - periorbital
DEEP NECK SPACE INFECTIONS

▲ Usually odontogenic
  – young, healthy, delayed Tx

▲ Cervical Fascial Layers
  – Superficial fascia
  – Deep fascia
    ♦ superficial (investing)
    ♦ middle (visceral)
    ♦ deep (prevertebral and alar layers)
SUBMANDIBULAR SPACE

▲ 1836 - Wilhelm Von Ludwig
   – implies bilateral involvement

▲ boundaries
   – Hyoid to FOM
   – Ant/lat - mandible
   – Mylohyoid “sling”
   – bucopharyngeal gap
LUDWIG’S ANGINA

- dysphagia, drooling, muffled voice
- “woody” induration, no fluctuance
- Treatment
  - airway control
  - IV ABX
  - Surgical drainage
LATERAL PHARYNGEAL SPACE

▲ Inverted cone - hyoid to base of skull
▲ Pre-styloid compartment
  – fat, lymph nodes, muscle
▲ Post-styloid
  – carotid, IJ, CN IX - XII
▲ pain, fever, neck swelling, ?trismus
LATERAL PHARYNGEAL SPACE

▲ Ominous signs
  – Horner’s, bleeding, CN palsies, mediastinitis

▲ Treatment
  – Surgical drainage
  – IV ABX
    ♦ jugular vein thrombosis
RETROPHARYNGEAL SPACE

▲ Retropharyngeal space
  – between alar layer and sup. constrictors
  – extends to sup mediastinum

▲ Danger space
  – between alar and prevertebral layers
  – diaphragm

▲ Prevertebral space
  – down to coccyx
MASTICATOR SPACE

- Pterygoids, masseter, temporalis m.
- Comm w/ temporal space superiorly
- Trismus!
- CT can direct surgical approach
PERITONSILLAR ABSCESS

- Areolar tissue bound by sup. constrictors
- Rarely life-threatening but can spread
- Serial aspiration vs I and D
NECROTIZING FASCIITIS

▲ Synergistic, polymicrobial infection
▲ Sup layer of deep fascia
▲ Determining necrosis is Key
  – gas, crepitance, failure to respond to ABX
▲ Treatment
  – IV ABX
  – Radical surgical debridement
ACUTE EPIGLOTTITIS

▲ Now rare in children
▲ “Hot potato” voice, drooling, fever
▲ No FILMS - go to OR!
  – no fiberoptic exam
  – bronch, trach equipment ready
  – change to nasotracheal tube
MUCORMYCOSIS

- Progressive, invasive fungal infection
- Severe DM or immunocompromised
- Black necrotic lesions of nose or palate
- Radical surgical debridement to bleeding
- Broad, nonseptate hyphae, right angles
- Amphoterrible
COMPLICATIONS OF SINUSITIS

▲ Parameningeal, periorbital location
▲ Frontoethmoid sinuses
  – frontal lobe abscess, meningitis, subdural empyema
▲ Sphenoid sinuses
  – Sup orbital fissure, cavernous sinus
▲ Sx of increased intracranial pressure
OTOLOGIC COMPLICATIONS

- Involve middle or posterior fossa
- Epidural abscess > meningitis > brain abscess
- Warning signs
  - early - malodorous discharge, fever, HA
  - late - facial paralysis, vertigo
- Multiple complications are common
- Malignant otitis externa