DEEP NECK SPACE INFECTION

NAT'S NOTES IN OTOLARYNGOLOGY HEAD AND NECK SURGERY

Episodes 6.1-6.2

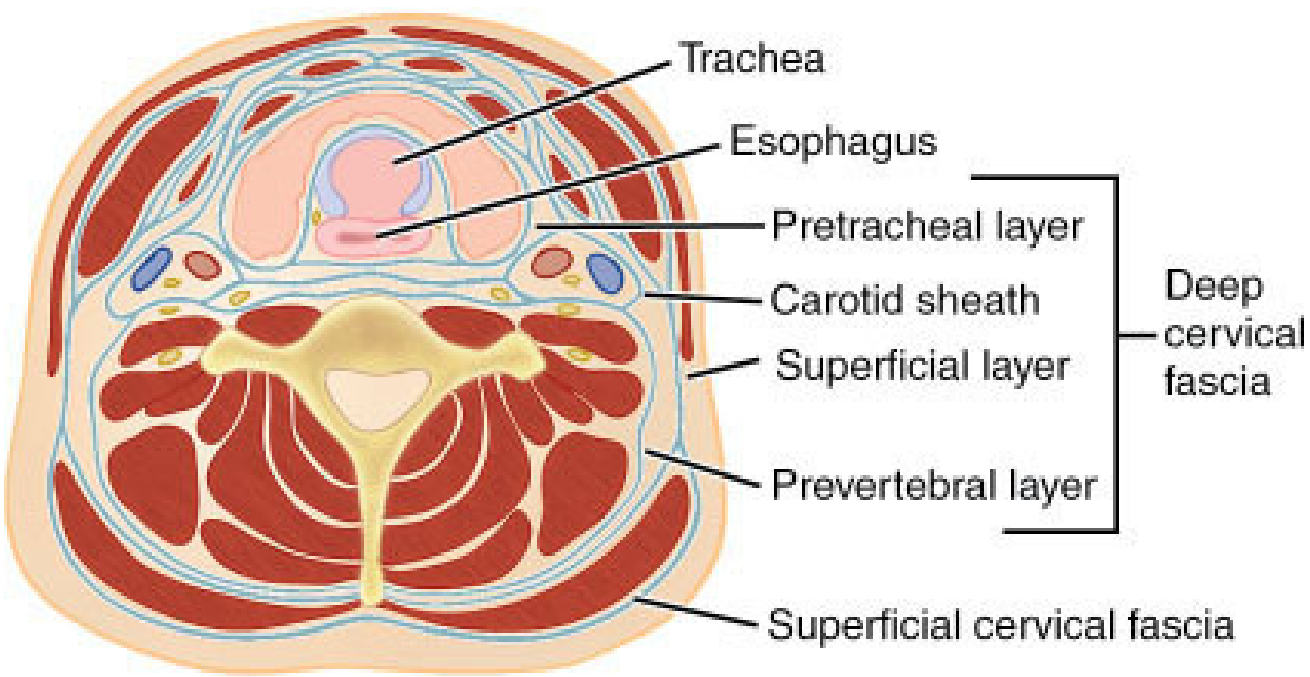
CERVICAL FASCIA

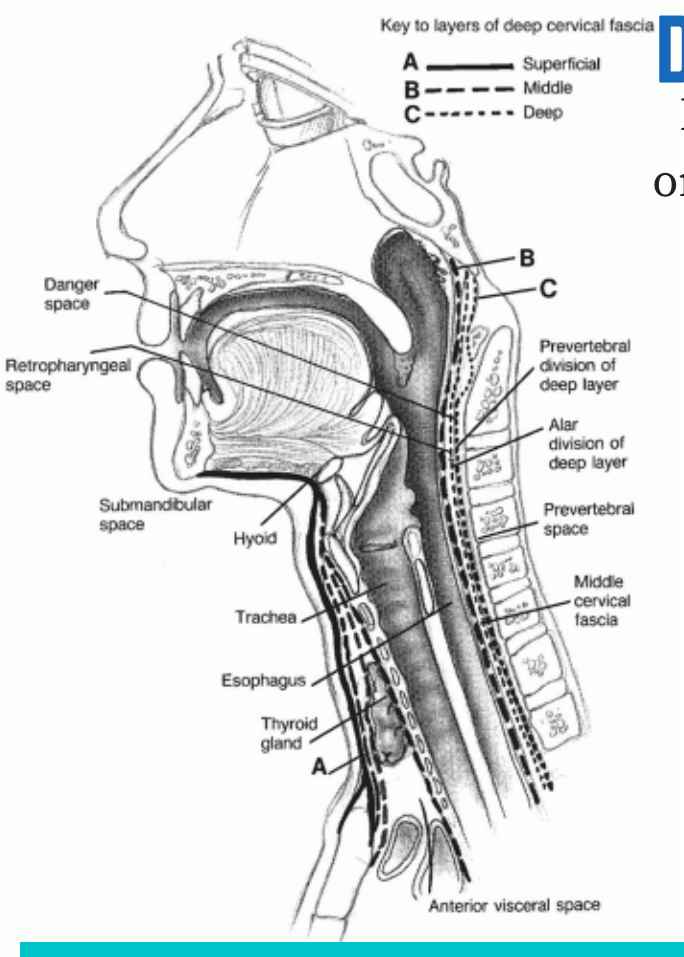
Superficial cervical fascia (subcutaneous tissue)

Deep cervical fascia - 3 layers:

1) superficial ("investing")
2) middle ("pretracheal")
3) deep ("prevertebral")

3 layers form around carotid a., IJV and CN X (carotid sheath)





DEEP NECK SPACES

Involves entire length of neck or in relation to the hyoid bone

- Superficial space
- Retropharyngeal space
- Danger ("alar") space
- Prevertebral space
- Vascular space
- Submandibular space
- Parapharyngeal space
- Peritonsillar space
- Masticator space
- Parotid space
- Anterior visceral space

LUDWIG'S ANGINA

Emergency!

Cellulitic infection limited to submandibular space. No purulence is seen on drainage, and the SMG is spared.

Tender, fluctuant and firm anterior neck edema, hot potato voice, drooling, tachypnea, dyspnea and stridor

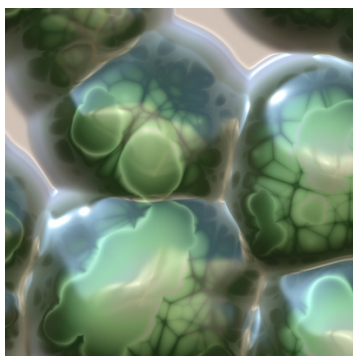
Treated with IV antibiotics and rapid surgical inervention

MICROBIOLOGY

Typically polymicrobial

Aerobic streptococcal and non-streptococcal anaerobes (bacteroides, lactobacillus)

Gram negative bacteria very uncommon



DEEP NECK SPACE INFECTION

NAT'S NOTES IN OTOLARYNGOLOGY HEAD AND NECK SURGERY

Episodes 6.1-6.2

HISTORY AND EXAM

Recent trauma or preceding illness?
Recent dental surgery or head and neck instrumentation?
Other head and neck symptoms - otalgia?
Host factors - immunocompromise? Diabetes? IV drug use?
Autoimmune disease?
--- Conduct full cranial nerve exam
--- Palpate floor of mouth and neck
--- Examine oral cavity
--- Nasopharyngoscopy / laryngoscopy

IMAGING

Lateral neck plain film - 83% sensitivity. Primarily used to diagnose retropharyngeal and pretracheal / anterior visceral space abscesses
High resolution US - to clinically follow an infection during therapy, image guided aspiration
CT scan - modality of choice. Quick, provides fine anatomical detail, differentiates abscess versus cellulitis
MRI - provides even better soft tissue detail, non-contrast, no image artifact created by dental fillings. Limited by cost and availability

TREATMENT PRINCIPLES

1. Airway protection - Observation vs. intubation vs. tracheostomy
2. Antibiotic therapy - 3rd gen. cephalosporin (ceftriaxone, ceftazidime) or clindamycin and metronidazole. Should show clinical improvement within 24-48 hours. Always send for C&S
3. Surgical drainage - Transorally vs. externally. Image guided aspiration may be performed for smaller, uniloculated collections

COMPLICATIONS

- Airway obstruction
- Internal jugular vein thrombosis (**Lemierres Syndrome**). Requires anticoagulation and typically, excision of clot or affected venous segment
- **Mediastinitis** (40% mortality rate). Presents with severe dyspnea, chest pain and fever. Requires drainage via transcervical incision vs. chest tubes vs. thoracotomy
- In cases of recurrent abscess, consider congenital cause