

Retropharyngeal Abscess or Malignancy? A Difficult Differential Diagnosis in New Neck Masses

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Introduction

- American Academy of Otolaryngology notes that the **diagnosis of a new neck mass takes an average of 3-6 months**
- **Only one evidenced-based clinical practice guideline** to assist with diagnosis exists
- **Malignant neoplasms exceed any other etiology of adult neck masses** versus infectious in adolescents

RPA Risk Factors

- Recent oral or dental surgery
- Persistent head and neck infection
- Pharyngeal trauma from a foreign object
- Immunocompromised state

- Extremely uncommon without an inciting event or comorbidity
 - Lower risk in adults due to retropharyngeal lymph node atrophy and fewer respiratory infections

Common Presenting Symptoms

- Dysphagia, neck pain, and sore throat
- Difficulty moving the neck and opening the mouth
- Cervical lymphadenopathy, neck stiffness or swelling, or stridor
- Pain out of proportion to exam

Case Presentation

Case Presentation

Subjective

- 51-year-old male with PMH anxiety and depression, testicular cancer status post orchiectomy in 2005 and multiple lumbar back surgeries
- CC: two weeks of left-sided neck pain and headache

- Two weeks prior was treated at another emergency department
 - Normal CT scans
 - D/c'd with cyclobenzaprine hydrochloride, prednisone, and oxycodone/acetaminophen

Case Presentation

Subjective

- **Denied:** Fever, chills, dizziness, diplopia or loss of vision, angina, palpitations, shortness of breath, abdominal pain, nausea/vomiting, weight loss, hemoptysis, diarrhea, or urinary symptoms.
- **Denied:** Recent illness, upper respiratory infection, or dental infection, recent travel

- **Endorsed:** Left eye blurriness, difficulty mobilizing the jaw, and dysphagia

Case Presentation

Objective

Vitals:

Temperature 98.8°F, Pulse 98 BPM, RR 22, BP 168/85, Pulse Ox 98 Room Air

Physical Exam:

GENERAL: AAOX4, **Severe distress due to pain**. Unwilling to participate in much of the history taking or exam due pain-related “inability to think”.

HEAD: Atraumatic and normocephalic. **Sharp stabbing pain** reproduced with light touch over the left occipital region and distribution of all branches of the left trigeminal nerve, **severe photophobia** in both eyes, but pupils were equal and reactive. The temporal artery was not swollen and no meningeal signs were noted.

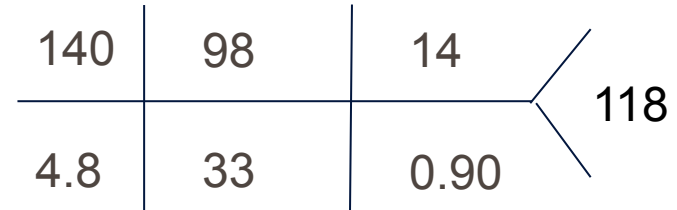
THROAT: Moist mucous membranes, **not able to visualize the tonsils**, posterior pharynx, or uvula, tongue projected midline

NECK: Non-tender without obvious lymphadenopathy or notable masses.

OTHER: Examination of the heart, lungs, abdomen, and extremities were normal

Case Presentation

Objective



CRP: 19.9 mg/dL
ESR: 62 mm/Hour

Case Presentation

Hospital Course - Day 1

Medications: Prednisone 60 mg daily with long taper, ampicillin-sulbactam

Imaging Studies:

CT Head: Findings of edematous left palatine tonsil resulting in mild rightward airway displacement and effacement

CTA head and neck: Negative for large vessel occlusion, stenosis, dissection or aneurysm. No acute hemorrhage noted. Edematous left palatine tonsil resulting in mild rightward airway displacement and effacement; central low-attenuation without peripheral enhancement, suggestive of more focal edema or early abscess formation.

Other studies:

LP : normal findings

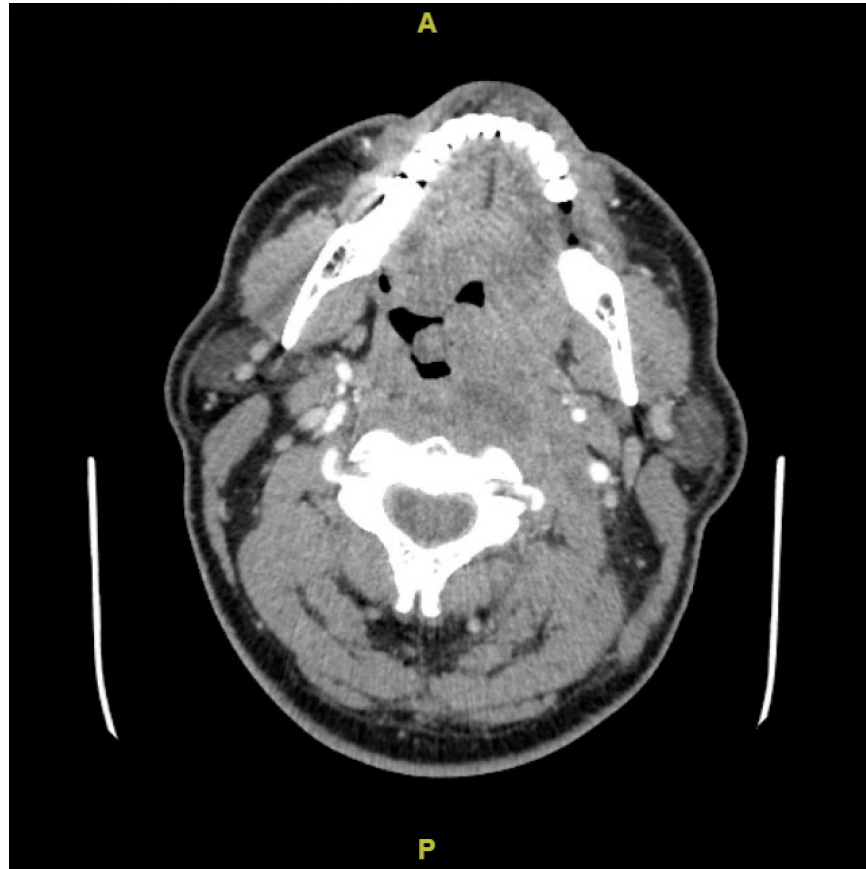


Figure 1a, Figure 1b - Initial CT head and neck performed on admission showing concern for airway compromising mass, abscess versus malignancy

Case Presentation

Hospital Course - Day 2

Medications: Prednisone 60 mg daily with long taper, ampicillin-sulbactam

Consultant Recommendations:

Neurology: Recommend MRI w/wo GAD, Stroke workup

ENT: Uncertainty, wait for MRI but likely this isn't NPC from subjective CT imaging review

Imaging Studies:

MRI: Trans spatial rim enhancing fluid collection described above is highly concerning for primary malignancy (most likely nasopharyngeal carcinoma). Superimposed infectious process cannot be excluded. Suggest diagnostic neck CT for definitive initial imaging and nodal staging.

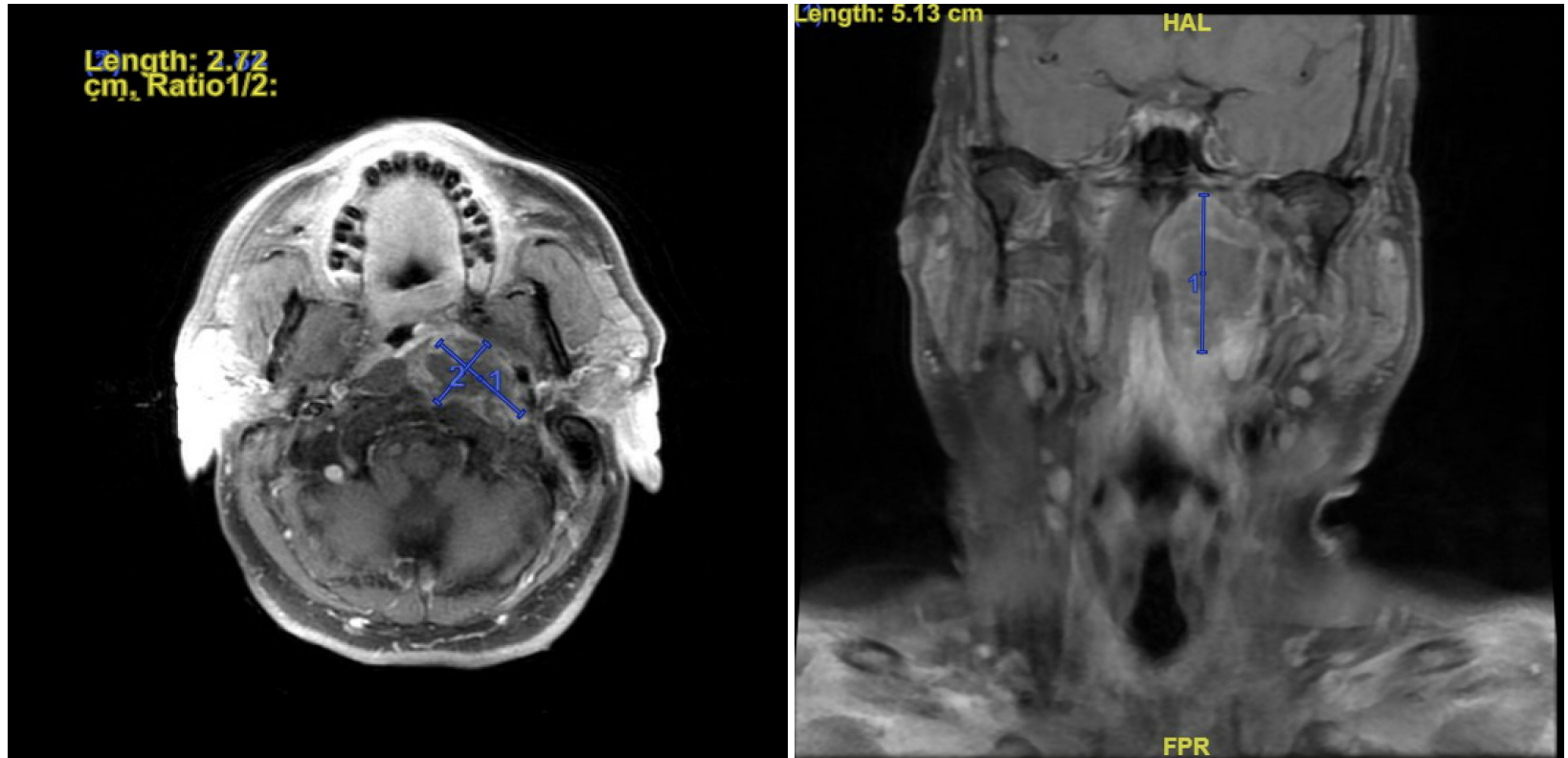


Figure 2a, 2b - MRI head and neck trans spatial rim enhancing fluid collection centered within the left parapharyngeal space, measuring 51 x 38 x 27 mm

Case Presentation

Hospital Course - Day 3

Medications: Prednisone 60 mg daily with long taper, ampicillin-sulbactam

Labs: EBV DNA pending

Clinically:

- Further history obtained: 20 years of smoking 1 pack per day, quitting 20 years ago, however persists with chewing tobacco. Grandfather who died of a unspecified neck cancer. Frequent streptococcal tonsillitis with no recent episodes nor history of abscess
- Pain has been unable to be controlled
- Respiratory status becomes worrisome with tachypnea

Consultant Recommendations:

ENT: I&D for impending airway collapse

Anesthesia: Occipital nerve block with good pain control intraoperatively

Case Presentation

Hospital Course - Day 4

Medications: Stop Prednisone, continue ampicillin-sulbactam

Labs: EBV DNA pending

Clinically: Able to have first full liquid diet

Consultant Recommendations:

ENT: Bedside flex laryngoscopy: No definitive primary mucosal lesion seen in the NPx or OPx that might suggest a primary site on imaging or recent scope exam.

Cultures: MRSA

Case Presentation

Hospital Course - Day 5

Consultant Recommendations:

ENT: Return to OR for repeat exploration. No purulence found, JP drain placed

ID: Start Vancomycin, continue ampicillin-sulbactam

Hospital Course - Day 6

Consultant Recommendations:

ID Consulted: Continue Vanc, discontinue ampicillin-sulbactam

Hospital Course - Day 7

Clinically:

Patient tolerating full liquid diet, JP drain removed

Case Presentation

Hospital Course - Day 8

Medications: Vancomycin

Clinically:

Fever 102°F, HR 110

Return of neck pain and worsening headache

Consultant Recommendations:

ID: Ampicillan-sulbactam restarted, Vancomycin switched to daptomycin

ENT: Repeat CT neck

Imaging:

CT: Persistent but decreased size of fluid collection

Case Presentation

Hospital Course - Day 9, 10

Clinically: Tolerating soft diet

ID: 3 weeks outpatient daptomycin and ampicillin-sulbactam therapy

Hospital Course - Day 11

Discharge

Medications: daptomycin and ampicillin-sulbactam

F/u ID and ENT in 3 weeks

3 week follow-up

- Complete symptom resolution
- Repeat neck CT with contrast: resolution of previously observed retropharyngeal abscess with minimal residual changes of the oropharynx

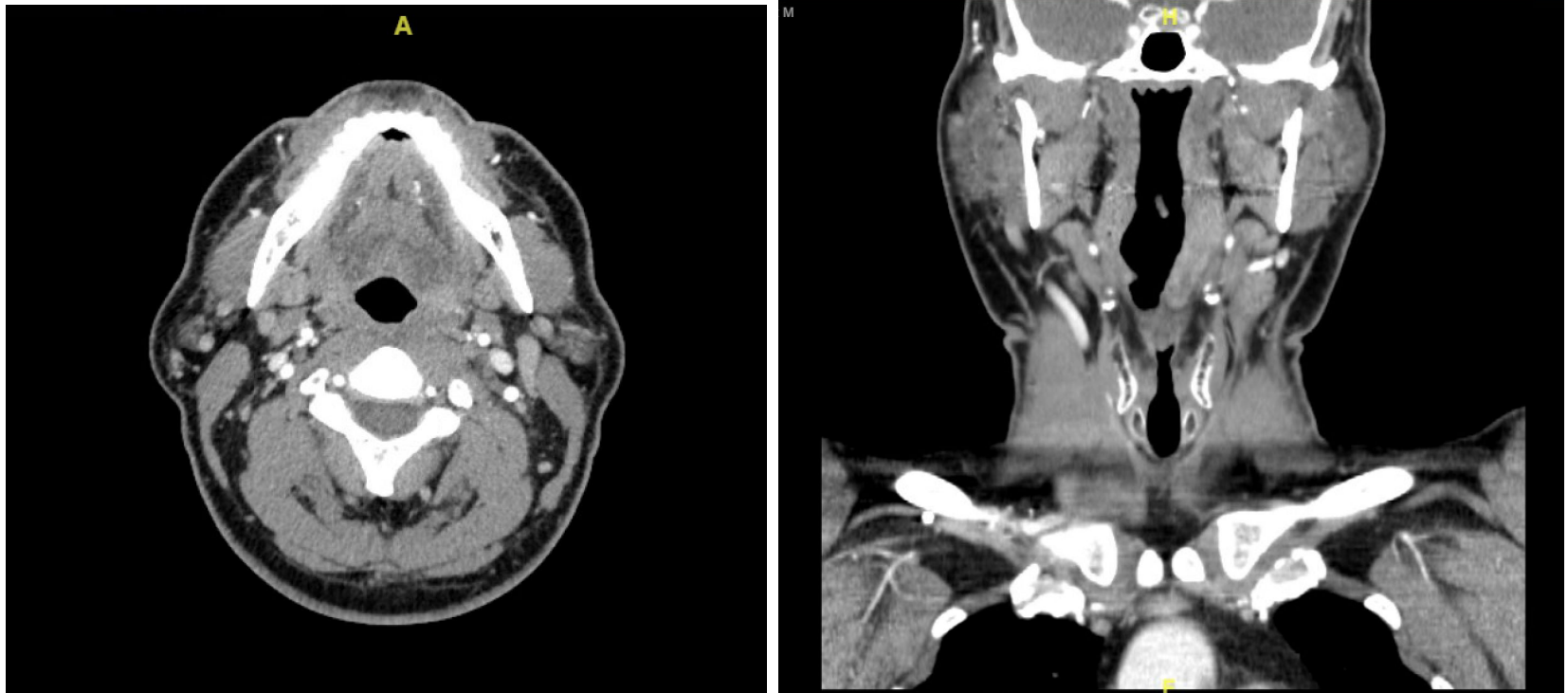
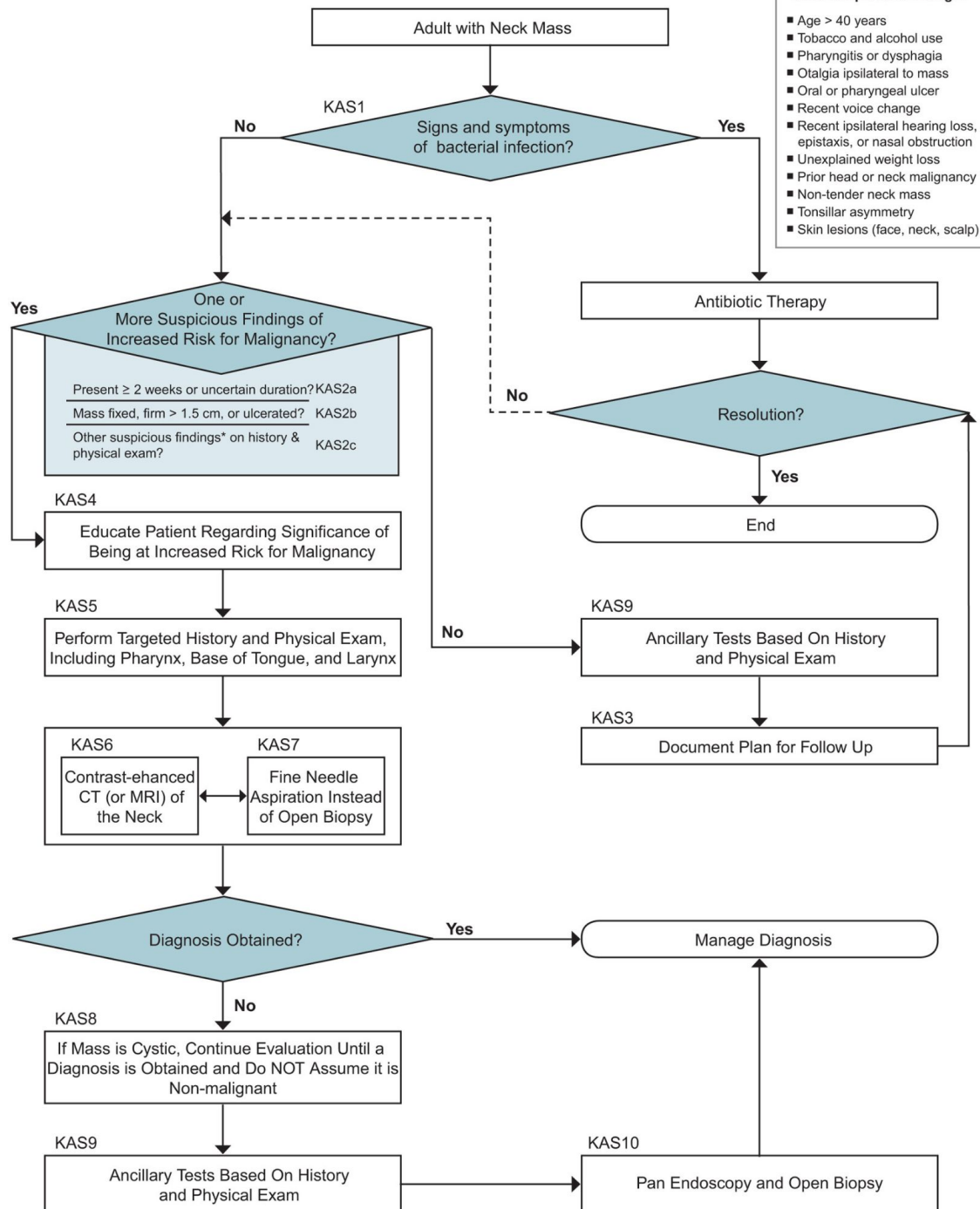


Figure 3a, 3b - One month post incision and drainage CT head and neck shows resolution of previously observed retropharyngeal abscess with minimal residual changes of the oropharynx

Discussion

- Prime example of the delay in diagnosis for a new adult neck mass
- Our patient *finally* meet criteria for diagnostic exploitation of the mass due to concern for airway compromise
- While the Pynnonen et al. guideline focused mostly on neoplastic masses, **many of the initial diagnostic steps for a new neck mass are the same for infectious masses**



Approach to the Adult Neck Mass

Pynnonen et al.

This research was supported (in whole or in part) by HCA Healthcare and/or an HCA Healthcare affiliated entity. The views expressed in this publication represent those of the author(s) and do not necessarily represent the official views of HCA Healthcare or any of its affiliated entities.

Table 3. Summary of Guideline Key Action Statements.

Statement	Action	Strength
I. Avoidance of antibiotic therapy	Clinicians should <i>not</i> routinely prescribe antibiotic therapy for patients with a neck mass unless there are signs and symptoms of bacterial infection.	Recommendation
6. Imaging	Clinicians should order neck computed tomography (or magnetic resonance imaging) with contrast for patients with a neck mass deemed at increased risk for malignancy.	Strong recommendation
7. Fine-needle aspiration (FNA)	Clinicians should perform FNA instead of open biopsy, or refer the patient to someone who can perform FNA, for patients with a neck mass deemed at increased risk for malignancy	Strong recommendation

Approach to the Adult Neck Mass
Pynnonen et al.

- *Avoid* routinely prescribing antibiotics unless signs and symptoms
- For patients at increased risk for malignancy → get CT or MRI w/ contrast, FNA over open biopsy.

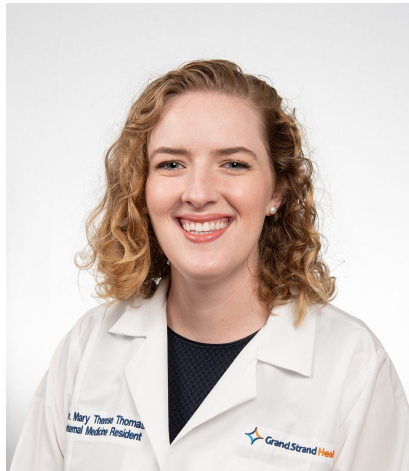
Conclusion

- This case **broadens the differential** of severe left sided facial pain in those with pain out of proportion to exam
- Though the patient ultimately underwent incision and drainage, the **question of whether he needed an invasive operation for treatment** stands
- Our patient's pain was better controlled post-surgery and a definitive diagnosis was able to be made. However, we do not know if conservative medical management would have sufficed
- Although our patient had a favorable outcome, he is an excellent example of the **necessity for prompt diagnosis** of retropharyngeal abscesses in adults

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Questions?



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