



Acute Uvulitis in the ED



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Tyler's case

Tyler, 33, presents to the ED with a sore throat. Three hours prior to presentation, he awoke with pain in his throat in addition to a full feeling that escalated progressively and was making him gag. He also has odynophagia. He was not short of breath; however, he has a choking sensation when supine. His past medical history was unremarkable and he has no allergies and takes no regular medications. He denies trauma to the oral cavity, but on more focused history admits to having consumed 5 beers and smoked some hashish with a friend late the previous evening. Although he is a regular smoker of cannabis, he had not previously experienced these symptoms.

Physical exam

Tyler's vital signs reveal tachycardia at 118 bpm, tachypnea at 22 bpm and are otherwise unremarkable. He does not appear toxic. He is not in respiratory distress, but is visibly anxious and leaning forward drooling. On examination of the oral cavity, a markedly edematous uvula was noted to be resting on the posterior tongue. The palate, tonsils and pharynx were erythematous, but not edematous. The uvula was erythematous, but without exudates. Any contact with the uvula caused pain. There is no palpable cervical lymphadenopathy. His chest is clear on auscultation. Tyler has no facial swelling or urticaria.

Investigations

Complete blood count, electrolytes and glucose are all within normal limits. Soft tissue lateral radiograph of the neck confirms a markedly enlarged uvula and a normal epiglottis. No other ancillary evaluation is undertaken.

Questions & Answers

1. What is important in the initial assessment of a patient with uvulitis?

Uvulitis is a rare condition with multiple etiologies. It is helpful to triage patients with uvulitis into "sick" and "not sick" groups. Uvulitis can be isolated, associated with inflammation of the pharynx, or epiglottitis.¹⁻¹² Usually following a benign course, it may however be a first sign of epiglottitis and it is therefore important to rule out this potentially life-threatening condition.^{3,6,10-12} Patients with uvulitis should be closely monitored initially for signs of respiratory distress and attending staff should be prepared for orotracheal intubation if necessary. A lateral soft tissue radiograph of the neck can allow rapid assessment of the uvula, epiglottis and surrounding airway. If epiglottitis is suspected, indirect laryngoscopy or fiberoptic nasolaryngoscopy should be performed for confirmation.^{3,6,10-12}

Uvulitis can be caused by trauma, infection, allergic reactions, hereditary angioedema, therapy with ACE inhibitors and inhalation of irritants such as cannabis smoke and cocaine that are inhaled at elevated temperatures.^{1,3-10,12-24} A detailed history is important, in addition to obtaining culture of the uvula as well as blood cultures in cases where the patient is febrile. The most common infectious etiologies are *Group A Streptococcus* (GAS) and *Haemophilus influenzae* Type b (H1b), though other microbes may also cause uvulitis.^{4,5,10,13,15,24-25}

Position the patient comfortably seated upright. Some patients may need to lean forward to relieve

Tyler's case cont'd...

Treatment and follow-up

Tyler was treated with 20 mg of IV dexamethasone and an opioid analgesic. After a period of observation, the uvular edema reduced significantly and the patient was discharged from the ED.

Tyler was treated with oral analgesics and instructed not to smoke tobacco or cannabis cigarettes and to obtain FP follow-up in 1 week.

Follow-up with his FP 1 week later showed no return of symptoms.



Figure 1. Oropharynx.

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Publication Mail Agreement No.: 40063348
Return undeliverable Canadian addresses to:
STA Communications Inc.
955 boulevard St-Jean, Suite 306
Pointe-Claire, QC, H9R 5K3

partial obstruction of the airway from the edematous uvula as well as gagging. Reassurance and a focus on deep nasal breathing are important as anxiety is common.^{11,26}

2. What are the important questions to be asked in the history?

It is important to determine if there has been exposure to mucosal irritants, as the management differs substantially depending on the etiology. Questions should screen for any known allergen exposures or atopy, exposures to new foods or medications, any history of trauma to the oropharynx especially recent endoscopic investigations, or nasal airway or endotracheal intubation. Possible exposure to inhaled irritants should be sought, specifically exposure to cannabis or crack cocaine smoke inhalation which has been demonstrated to be a significant cause of uvulitis.^{1,21,26-27} Even inhalation of air at a high temperature, as in use of a sauna, has been reported to be a trigger.²⁸

A complete description of the onset and duration of symptoms can be extremely informative. Commonly reported symptoms include throat soreness, odynophagia, dysphagia, irritability, sensation of fullness in the back of the oral cavity, gagging, drooling, dyspnea and aphonia.^{2,3,7,9,11,24} It is important to inquire about fever, chills and rigors as well as recent history of cough, rhinorrhea, or malaise to determine the likelihood of an infectious etiology.^{5,7,10-13,15,24,25}

3. What are the important aspects of the physical exam?

Inspection of the patient may reveal signs of sepsis or respiratory compromise. An often reported, but not exclusive sign of uvulitis is persistent drooling from the mouth.^{1,2,4-6,12,13,24} Attention to vitals, especially respiratory rate, oxygen saturation and temperature are important to assess the patient's respiratory status and the presence of infection respectively.^{6,12} Oral examination is paramount to determine the extent of uvular edema, airway compromise, associated oropharyngeal involvement and any signs of

erythema, exudation or necrosis. Uvulitis secondary to viral or bacterial infection is usually also associated with odynophagia, throat pain and fever and it will typically manifest with an inflammatory appearance (erythema and edema). An angioedematous uvula is usually not erythematous (edematous and translucent); it will have the appearance of a large, white grape. It is also often less tender on history and on exam.²⁹ Examination of the lymphatics of the head and the neck is also important to delineate the extent of an infectious etiology, as well as identify an infectious reservoir such as a retropharyngeal abscess.^{4,6,8-11,13,15,24} Neoplasms in the pharyngeal space may also present with uvular edema and follow-up is important for all patients to ensure complete resolution.³⁰

4. What are the important investigations?


Uvular surface and blood cultures should be performed to investigate infectious etiologies where appropriate. The most common infectious causes are GAS and Hib. Antimicrobial sensitivity should also be determined. A Monospot assay has been recommended by some authors, but Epstein Barr virus is not a known etiologic agent of isolated uvulitis to date in the literature. As there is an association between uvulitis and epiglottitis, the workup of the former will include laryngoscopy if there is a suspicion of epiglottitis. The initial laboratory workup is limited, including only a complete blood count with differential and a complement C4 level. Eosinophilia suggests an allergic reaction as the cause, whereas a low complement C4 level suggests hereditary angioedema.²⁹

A lateral soft tissue radiograph of the neck is indicated if the patient has significant

airway edema or true dysphagia to rule out associated epiglottitis.^{1,3,4,6,10-13,24} If a patient is unstable with impending airway obstruction, prompt attention to airway management and surgical or otolaryngology consult are imperative.

5. What is the appropriate management of this patient?

In cases of cannabis- or cocaine-induced uvulitis, appropriate management includes:

- Protection and maintenance of adequate oxygenation, airway and analgesia with frequent reassessment for those in the ED
- Empiric therapy with broad-spectrum antibiotics may be undertaken if clinically warranted based on the patient's condition. If antimicrobial therapy is elected, coverage of GAS and Hib are important
- If the history and physical examination suggest an allergic etiology, treatment will not differ from usual treatment for allergic reactions and can include:
 - intramuscular epinephrine,
 - H1 and H2 blockade and
 - prednisone.
- Comfortable positioning of the patient. This often involves an erect seated position and stooped forward
- Reassure patient and encourage nasal breathing
- An anti-inflammatory agent to reduce edema and pain. Appropriate medications include corticosteroids, acetaminophen and antihistamines
- Observation for a few hours in the ED to ensure patient safety after discharge 

For references, please contact diagnosis@sta.ca.