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An Adult Acute Epiglottis Case Diagnosed During Upper Gastrointestinal Endoscopy and Possibly Related to Hookah Smoking

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1. Introduction

Acute epiglottitis has the potential to cause sudden, complete airway obstruction. It is a medical emergency that requires rapid diagnosis and careful management of the airway. Although infrequent in adult patient group, if overlooked, it has the potential for the worse outcomes. We present a case of acute epiglottitis which in the routine daily practice, an adult gastroenterologist may rarely encounter to, probably in a very risky clinical scene.

2. Case Presentation

A 60 years old white male presented to our gastroenterology on June 12, 2018 to outpatient clinics with a chief complaint of difficulty in swallowing and sore throat. He had these symptoms for the past 3 days. He reported that he had difficulty even in swallowing his own saliva. He reported pain in his throat. He denies any fever or any other cold sickness neither himself nor of his family. One day ago he visited an Ear Nose & Throat (ENT) doctor in another medical center who had prescribed a cure of oral amoxicillin antibiotic treatment to the patient. But the patient could not swallow the tablets due to difficulty in swallowing. Then he was given an intramuscular shot of Ceftriaxone treatment which he did not grossly benefit anyhow.

When he applied to our gastroenterology outpatient clinics, on history of the current disease, he denied any chest pain, difficulty in breathing, cough, nausea or vomiting. His past medical history was significant for Diabetes Mellitus type II which was on good control with Metformin 1000 mg, 2 times a day and also arterial blood hypertension which was controlled with Telmisartan 80 mg + Hydrocholorothiazide 12.5 mg combination tablet once a day. The patient denied any surgical operation, any significant alcohol usage and any cigarette smoking. Interestingly the patient reported a hookah smoking session of one hour 4 days ago, which he accepted the rare usage.

2.1. Diagnosis

On physical examination his vital signs were: blood pressure 125/75 mmHg, pulse 99, temperature 37.5°C, respiration count 14/min. His room air pulse oximetry measured as 97%. He had no neck swelling, no voice hoarseness, no pain worsening with the flexion and extension of the neck.

We decided to go on with an Upper Gastrointestinal Endoscopy (UGE) due to disphagia. But just after the oral entrance with the scope, we observed a swollen, inflammated epiglottis with a purulent exudate (Figure 1). We stopped to progress the endoscopy scope any further and during the UGE at the endoscopy suit, an emergent ENT consultation was done confirming the epiglottis diagnosis under endoscopic view.

Laboratory test results of the same day, after the UGE diagnosis of Acute epiglottis revealed an elevated level of C reactive protein (CRP) levels as 224 (N: 0-5 mg/L) and increased white blood cell count (wbc) as 19.64 /L, with a left side shift of neutrophil percentage 84,3 %, lymphocyte 9.8 %. The hemoglobin level was 14, 0 g/dL, MCV: 86,9 fL, platelets: 228 109/L. Patients' renal function tests besides TSH and free T3 levels were all within normal limits. We did not get a radiograph of the soft tissues of the neck.

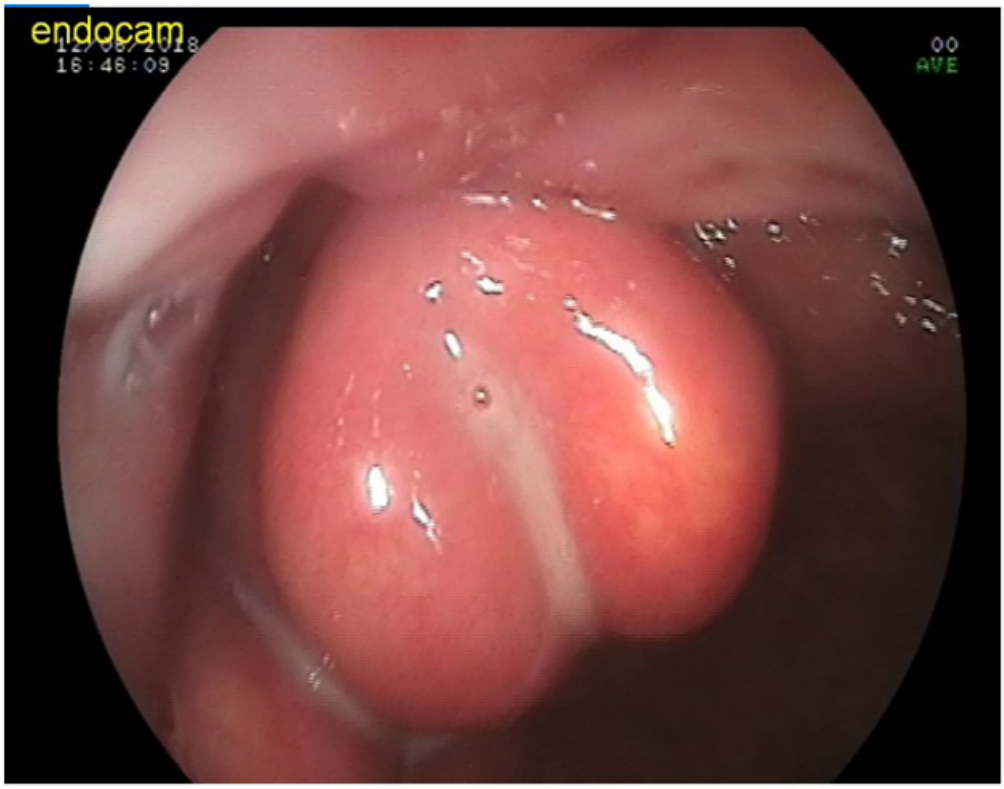

Figure 1: The swollen, inflammated epiglottis with a purulent exudate.

2.2. Clinical Progress

The patient was taken to emergency department intensive care service. Patients' oral intake was stopped and intravenous total parenteral nutrition with insulin infusion was initiated. Intravenous corticosteroid as methly prednisolone 80 mg, diphenhydramine 20 mg, Ceftriaxone 2x1 gr/ intravenous and nasal oxygen was administered. The patient was followed in the wards for 4 days and got better and eventually discharged. Blood and throat cultures were reported later as negative.

3. Discussion

Acute epiglottis is an invasive cellulitis involving the epiglottis. Before the widespread vaccination against Haemophilus influenzae, it was a bacterial disease mainly seen in young children [1]. Its frequency is now increasing also in adult age group [2]. Clinical presentation of Acute epiglottitis in adults differs from that of children. The symptoms of Acute epiglottis were reported as longer lasting, less severe, and predominantly as sore throat [3]. Epiglottitis can be diagnosed by visualizing the edematous epiglottis either directly or by indirect laryngoscopy or fiberoptic endoscopy [4]. Lateral neck images may show an enlarged epiglottis and swelling of the prevertebral soft tissue [5].

Most of the time, Acute epiglottitis diagnosis is made by ENT doctors. Still gastroenterologist should not ignore that rare cause of dysphagia. In cases like ours, the diagnosis of Acute epiglottitis somehow (disease findings might not yet have matured enough at the time of physical examination or might simply be overlooked) may not be done by ENT doctor and patient may come to gastroenterology clinics with dysphagia. Normally management of patients with dysphagia is a routine part of daily gastroenterology clinical practice and UGE is a powerful option frequently used in the diagnosis of such patients with swallowing difficulties. The usage of UGE in patients with Acute epiglottis may have some potentially lethal consequences. Direct physical contact of endoscopy scope to epiglottis may cause irritation of the epiglottis ending with further swelling and total closure of upper respiratory tract. Therefore, any diagnosis of Acute epiglottis during the UGE should promptly dictate the termination of the procedure.

In our case we thought that the ENT doctor in another medical center had seen the patient one day ago so we did not need an ENT re-consultation before UGE. It is now obvious now that, the same day ENT consultation before UGE was required in such a patient with complaints of dysphagia and sore throat.

Acute epiglottitis is mostly a bacterial disease mainly when seen in young children [1]. On the other site Acute epiglottis in adult patient group is a rare disease originating mostly from a non-bacteremic infection or an inflammation [3]. There are different etiological reasons such as inhalation of heated objects when smoking illicit drugs e.g. marijuana cigarette, metal pieces from crack cocaine, etc. [6]. Also toxic effects of vaping and the increasing use of electronic cigarettes among adolescent patients may lead to acute epiglottitis [7]. For our

case, hookah (narghile) smoking may be a possible etiology for Acute epiglottitis because of the temporal relationship with the inhalation of heated particules and the disease. He was formerly a nonsmoker, but he accepted that he had a session of hookah tobacco smoking one day before the Acute epiglottis episode. Hookah smoking (narghile), is becoming widespread worldwide and is also one of the most popular and epidemic forms of tobacco use among Turkish youth [8]. Narghile is a preparation of tobacco, glycerol, additives and flavors using charcoal separated with thin aluminum foil to heat the particules. Hookah smoking produces higher content of tobacco smoke, tar, carbon monoxide, polyaromatic hydrocarbons and carbonic compounds compared to cigarette smoking [8]. Hookah smoking resulted in increased airway resistance, oxidative stress and catalase activity in animal airways [9].

To the best of our knowledge, this is the first adult case report of Acute epiglottis be possibly related to hookah smoking in the literature.

4. Conclusion

Acute epigotitis should be considered as a possible diagnosis in an adult patient with unexplained acute dysphagia and sore throat following a recent exposure to any suspicious inhaled heated particles such as hookah smoking. Suspicion of an Acute epiglottitis diagnosis in adult patients should require same day ENT consultation before -if needed- UGE, as a further diagnostic tool. If an endoscopist somehow encounters an inflamed, swollen epiglottis during UGE, should stop to progress the scope further, take a photo, pull back, check patient breathing and have an urgent ENT consultation.

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