

Acute Epiglottitis in Older Patient: Case Report and Literature Review

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ARTICLE INFO

Received Date: December 08, 2023

Accepted Date: December 12, 2023

Published Date: December 15, 2023

KEYWORDS

Acute epiglottitis; Adult epiglottitis;
Supraglottitis; Airway intervention

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Citation for this article: Eduardo J. Correa, Antonio Sanmartín Caballero, Diego M. Conti, Miguel Pérez Delmás and Carlos Luna Gijón. Acute Epiglottitis in Older Patient: Case Report and Literature Review. Journal Of Otolaryngology: Research. 2023; 5(1):141

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ABSTRACT

Acute epiglottitis is a medical emergency with high risk of upper airway obstruction. In this paper we report a case of a 64 years old female with a rapid onset Epiglottitis and present a literature review regarding epidemiology, microbiology, clinical presentation, therapeutic measures and predictors of aggressive airway procedures requirement.

Acute epiglottitis is a life-threatening condition that requires a multidisciplinary approach and immediate therapeutic measures. Health professionals must be trained and be ready to perform aggressive procedures to secure the airway.

CASE PRESENTATION

A female patient, 64 years old, with history of hypertension, previous smoker until 30 years ago, with no other relevant history, presented in emergency room referring suspicion of foreign body after eating fish. The patient related sore throat, dry cough, foreign body sensation and mild swallowing difficulty. On the exam we found erythema of the pharyngeal posterior pillar on the left side and flexible laryngoscopy evidenced erythema on homolateral arytenoid as well. Paracetamol was prescribed in conjunction with dietetic measures.

The patient came back the following day referring and increased dysphagia and sialorrhea with a sensation of swollen neck. There were no findings on neck palpation. Oropharyngeal exam showed the same erythema as described the day before, but with a flexible laryngoscope an erythematous, tense swollen epiglottis was found. The Cormack – Lehane scoring [1] was 4, with impairment to visualize the vocal cords. We understood we were facing an Acute Epiglottitis and decided to admit the patient in female ward and started with therapeutics.

There was no systemic affection, as patient had no fever, heart rate was 72/min, respiratory rate 17/min and oxygen saturation 96%.

Blood test informed of White Blood Cells (WBC) 12.36 / uL with predominant neutrophils, Glucose 116 mg/dL, and C-Reactive Protein of 82,2 mg/L (normal value 0-5).

We prescribed intravenous Ceftriaxone, Hydrocortisone, oral Methylprednisolone, oxygen non-invasive mask ventilation, nebulized Budesonide and strict monitoring.

The first two days the patient was relating mild improvement and there was no airway obstruction or respiratory impairment and the laryngoscopy showed a Comarck 3, which we considered as improvement. After day 3 the patient presented significant clinical improvement and we continued with regular laryngoscopy.

On day 9 the patient was asymptomatic, vitals in normal parameters, WBC 6,47/uL,

C-reactive protein 52 mg/L and Procalcitonin 0,04 ng/mL as an indicator of no bacterial infection. Patient was discharged with oral antibiotics, and reduced prescription of oral steroids, with outpatient clinic follow-up and periodic laryngoscopic assessment. Figure 1 shows laryngoscopic evolution.

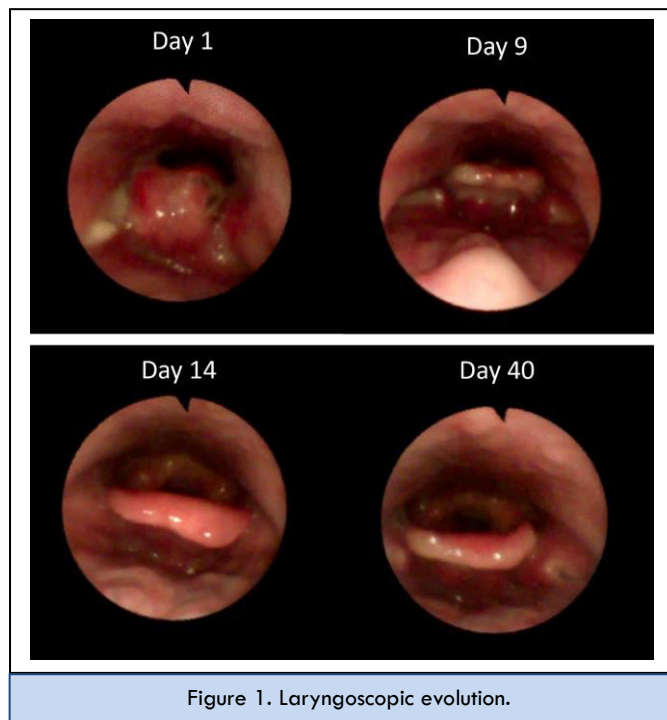


Figure 1. Laryngoscopic evolution.

DISCUSSION

Acute Epiglottitis (AE) or supraglottitis is a medical emergency caused by rapid onset inflammation of the epiglottis and supraglottis mucosa, which can lead to airway obstruction and ventilatory impairment, a life-threatening condition with 1-20% mortality rates [2]. It can present with symptoms of sore throat, swallowing difficulties, drooling, muffled voice and dyspnea [3].

As any infection, it can present with systemic repercussion evidenced as tachycardia, fever and poor glucose control.

It is considered a bacterial infection, in which *Haemophilus influenzae*, *Streptococcus pneumoniae* and *Staphylococcus aureus* are recognized as the most common pathogen [4]. This condition presents during childhood mostly with acute respiratory distress and fever, with a declining incidence due to *Haemophilus influenzae* vaccination. Adults often present with dysphagia symptoms, with an incidence of 1 to 4 every 100.000 [5] and a male to female ratio of 2.02:1 [6]. The age of presentation in adults varies between 19-96 years old [2].

We found several Case Reports of patients with AE

concomitant with a COVID-19 infection [7-11] and some authors have described an increased incidence of AE in 2019 [6]. Some of these publications informed of comorbidities such as hypertension, diabetes, obstructive sleep apnea. Nevertheless, none of them informed of concomitant pneumonia at the time of presentation.

Diagnosis of AE is made by clinical evaluation. Although a culture sampling can provide with a precise microbiological diagnosis, the supraglottis is a reactive structure and manipulation of the zone can lead to a rapid onset airway obstruction, then prescribing empiric treatment is recommended. Although complementary imaging procedures are described (lateral neck radiograph, CT scan) [5] we consider that due to the progressive airway obstruction, immediate therapeutic measures should be applied if suspected. If a flexible laryngoscope is available, this can confirm the diagnosis without any doubt. This concept is supported by other authors [2].

Regarding therapeutics, the most important is to secure the airway, as this inflammatory condition can lead to a severe airway obstruction from one minute to another. In our patient, we decided to prescribe oxygen by a non-invasive ventilatory mask, as the general condition was of normal arterial blood saturation levels, no tachycardia nor tachypnea. Securing ventilation may require aggressive procedures, such as orotracheal intubation or tracheostomy. Several authors have described predictors of aggressive intervention requirement, as subjective dyspnea and/or objective respiratory effort, respiratory distress, stridor, elevated C-Reactive Protein, older age, Body Mass Index more than 25 kg/m² and history of diabetes mellitus [5,12-16].

A combination of intravenous corticosteroids and antibiotics are mandatory. On the different publications, the choice of Methylprednisolone, Hydrocortisone, and the antibiotic scheme differed between Ceftriaxone, Ampicilin-Sulbactam, Clindamycin, Cefuroxime and Metronidazol [4,6,7,17]. Initially we prescribed intravenous Ceftriaxone and Hydrocortisone, which was complemented with oral Methylprednisolone, as decided in an interdisciplinary work with internal medicine and infectious disease of our hospital. Also, nebulized hydrocortisone was applied for the first two days of admission. On day 3 we considered a clinical improvement and switched

to oral Dexamethasone.

An interdisciplinary approach is mandatory in AE and requires a the participation of at least otolaryngology, internal medicine, infectious diseases and nursery.

CONCLUSION

Acute epiglottitis is a medical emergency with a rapid onset and severe consequences, it requires a multidisciplinary approach and immediate therapeutic measures, which include oxygen ventilation, steroids and antibiotics. As the most important is to secure the airway, health professionals must be prepared to perform aggressive procedures such as orotracheal intubation and tracheostomy.

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