



# Acute Epiglottitis in Adults: A Case Report

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## Abstract

For a long period of time, acute epiglottitis has remained a specific pathology in little children. The introduction and globalization of the *Haemophilus influenzae* type B vaccine has seen a drastic diminishing of its pediatric forms. Its occurrence in adults. On the other hand, its occurrence in adult is increasing with a clinical form and evolution which is noticeably different from child epiglottitis. It is a mainly male pathology which occurs most of the time between 40 to 50 years old. Its symptomatology is less typical and less noisy than that in children, which makes the evolution of the diagnosis, sometimes, difficult. The latter may be confirmed with nasofibroscope by checking the epiglottis and the adjacent supraglottic structures. A non-invasive treatment is most of the time possible, with a close monitoring in intensive care. In its severe cases, the therapeutic challenge is to keep upper airways free, if needed, after an intubation or tracheotomy. Morality is not much taken into account though a fatal evolution may occur through unpredictable hypoxic cardiac arrest, in case of upper airways' obstruction.

**Keywords:** Adult epiglottitis; Upper airways; Laryngeal dyspnea

## Introduction

Acute epiglottitis is an inflammation of the epiglottis which occurs suddenly. It is a rare urgent respiratory infection which can challenge the vital prognosis with the obstruction of the upper airways. Its occurrence in adults is extremely rare.

We are reporting here the case of a severe acute epiglottitis in adults, a patient who has been being treated at the ENT Department of St. Louis Regional Hospital.

## Case Presentation

The patient is 49 years old, a driver living in the suburb of St-Louis, a non-insulin-dependent diabetic. He had been referred to us by a colleague from the reception and emergency department for a laryngeal dyspnea treatment associated with 4 days evolving dysphonia, odynophagia, and fever.

The admission test concretely showed a laryngeal dyspnea with supra sternal and intercostal indrawing without stridor, a room air desaturation, SRIS, stinky secretions and an epiglottis lump filling the supra-glottic area when taking nasofibroscope (Figure 1). The rest of the clinical tests showed no particular sign.

The biological test showed a non-specific biological inflammatory syndrome with a hyperleukocytosis and a neutrophils predominance. The check-up of the area allowed establishing diabetes. The cervicothoracic CT showed a calm epiglottis almost filling the total supra-glottis, the glottis and the sub-glottis were free (Figure 2).

The patient had initially been treated in an adapted condition, firstly, at the emergency department then at the hospitalization department. The medication had showed a favorable evolution (Figure 3).

## Discussion

The most classical and probably the most known description of an infectious acute epiglottitis is the one which killed the first president of the United States of America in 1799, namely:

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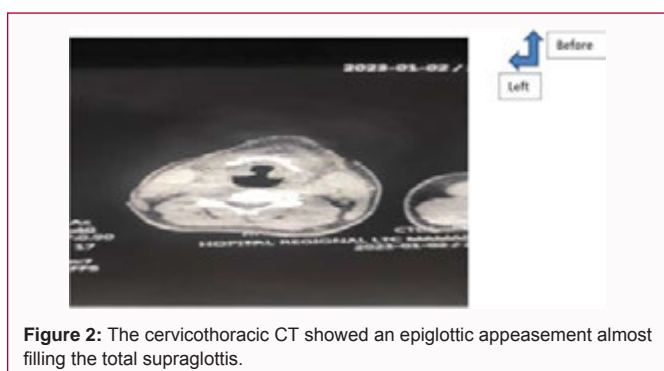
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**Figure 1:** Admission nasofibroscope showing the epiglottitis or B (ary-folds epiglottic oedema).



**Figure 2:** The cervicothoracic CT showed an epiglottic appositionment almost filling the total supraglottis.



**Figure 3:** Check-up nasofibroscope after 3 days treatment.

George Washington. “On a 14<sup>th</sup> December 1799 morning, George Washington woke up with a great pain at the pharynx. It quickly showed a fast-evolving stridor associated with a dysphonia. Being unable to lie down, he was treated standing though, in those days, the treatment consisted of a bleeding of more than 2 liters, on the night of that day, he died at 11:30 p.m.” [1]. However, the first descriptions of acute epiglottitis in adult seem older. Roland de Palma might have described the first abscess of the epiglottis in the 13<sup>th</sup> century [2].

The epidemiology of acute epiglottitis has varied over time. It has firstly been described essentially in adults, because it was considered as rare in children and it is only after the 1950s that acute epiglottitis started occurring in children. In the 1960s, it had become an illness exclusively occurring in children. In the West, child vaccination campaigns preventing *Haemophilus influenzae* type b (Hib) had incredibly lowered the occurring rate of acute epiglottitis in children. Acute epiglottitis became then an adult pathology. In 1980, the child/adult ratio was 2.6/1, and in 1990, it was only 0.4/1 [3].

It is hard to get a typical profile of patient types from the literature database. Patients of all ages can be concerned. Nevertheless, the average age of patients is between 40 and 50 years old according to the series, with sometimes, a male predominance [4,5], as it is the

clinical case of the patient under study. The occurrence of associated comorbidities is frequently found: Between 8% to 82% of cases [4,5]. The most found comorbidities are diabetes, high blood pressure or immunodepression [4,6-8]. We also notice a high smoking prevalence [4,8,9]. Non-insulin-dependent diabetes was the comorbidity found in the patient under study.

The clinical signs in adults are evoking enough but less brutal in children; associating a choked-up voice, an increasing swallowing difficulty with heavy drooling, all evolving in an infectious context (fever and hyperleukocytosis).

The clinical signs start, in healthy adults on the other hand, by a severe general pharyngeal pain which is a common sign. The other symptoms variably associate themselves. Frequently noted symptoms are the following: Odynophagia with sometimes a reflexive otalgia, fever, an inconstant dyspnea more or less severe which disappears more often during the admission of the patient, an anterior cervical pain, a dysphonia with covered voice, a difficulty to swallow saliva with salivary stasis. Sometimes, the patient suffers from respiratory distress [10]. Generally, the symptoms show up quickly in the beginning, in 90% cases. In the case of the patient under study, symptoms were a laryngeal dyspnea associated with dysphonia, and fever.

Sometimes, the examination must be done in a sitting position. Contrary in children, it is not inappropriate to take a nasofibroscope in adults in case of acute epiglottitis suspicion. Flexible fibroscope is the reference examination to carry out which allows to confirm the diagnosis. In fact, it allows a direct visualization of the epiglottis which shows oedema and inflammation, thus eliminating the other clinical differential diagnosis (angioedema, isolated pharyngeal abscess, uvulitis, ...) [11]. Most of the time, we notice an attack associated with other supraglottic structures represented by arytenoids, glossoepiglottic and epiglottic-ary folds. The proposed classification by Katori may be useful, in addition, it is more predictive of the necessity of a respiratory assistance [12]. The patient under study was classified at stage II in that classification.

The cervical CT scan can only be taken in stable patients, for whom the sitting position doesn't present any risk of obstructing upper airways. It allows to confirm the diagnosis and check for complications [13-15]. The cervicothoracic CT showed an epiglottic appositionment filling almost all the supra-glottis, the glottis, and the sub-glottis were free.

The treatment, of the patient under study, was on an associated systemic antibiotic therapy, a corticosteroid therapy and a close monitoring of the respiration. Our therapeutic protocol was an eventual intubation. The evolution was good with an outcome at J (image). The check-up after two month was normal (image). The use of an intravenous systemic corticosteroid therapy is largely described in the literature [10,16]. The retrospective data are conflicting, but many authors find no significant difference as to the duration of hospitalization or invasive ventilation between patients who received or not a corticosteroid therapy [10,17].

## Conclusion

Considered, for a long time, as a pathology occurring in children, acute epiglottitis is a severe ENT pathology, which rarely adults suffer from. A diagnosis and an early treatment come to a total remission of the sickness.

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