

## Case Report

# Acute epiglottitis in a fully immunized child

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### Abstract

Acute epiglottitis in children became a rare entity after introduction of the conjugate *Haemophilus influenzae* type b(Hib) vaccine<sup>1</sup>. However, physicians must be aware that epiglottitis may result from vaccine failures or from infection with other pathogenic organisms. Vaccinated children with epiglottitis present in a similar fashion to those who are not vaccinated<sup>2</sup>. The following is a case of a previously healthy and immunized child who presented to paediatric ward and ultimately diagnosed as epiglottitis.

### Keywords

Acute Epiglottitis, *Haemophilus influenzae*

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## Case report

An infrequent wheezer, fully immunized 8-year-old boy presented with fever, sore throat, difficulty in swallowing, on the background of 2 days of rhinorrhoea and cold. On presentation he had a respiratory rate of 32 breaths per minute, a heart rate of 132 beats per minute, a pulse oxygen saturation (SpO<sub>2</sub>) of 99% in room air, and a temperature of 103°F. He was ill-looking with no respiratory distress but refused to take oral medications and kept his neck extended.

Examination revealed an erythematous inflamed oropharynx with no cervical lymphadenopathy. He had a few rhonchi on auscultation bilaterally, without stridor. The rest of the physical examination was unremarkable. A dose of nebulized salbutamol was given without clinical improvement. Laboratory analysis including a complete blood count was notable for a white blood cell count of  $16.49 \times 10^3$  with 91% neutrophils and a CRP of 219.9. Radiograph of his neck was obtained, which was inconclusive. Ultrasound neck suggested a retropharyngeal abscess with 2.5 cm × 3 cm × 0.5 cm collection between larynx and spine and blood cultures were drawn. The child was started on intravenous cefotaxime and clindamycin. An ENT surgeon was referred to immediately, and an incision and drainage planned.

At the operation theatre, examination under anaesthesia revealed no retropharyngeal abscess but a significant oedema and erythema of the epiglottis extending down the bilateral aryepiglottic folds involving the arytenoids. A diagnosis of acute epiglottitis was made. (Fig 1)

Bronchoscope-assisted tracheal intubation was done and the child was admitted to the ICU for further monitoring. He recovered within 48 hours without other systemic complications. His blood culture was subsequently positive for *Haemophilus Influenzae*.

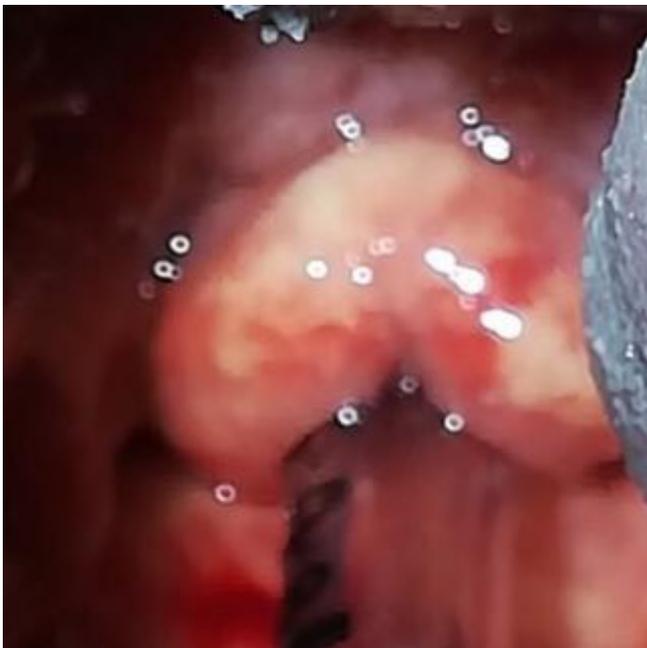


Fig 1

View on examination under anaesthesia

## Discussion

Upper airway emergencies in a febrile child tend to have infectious origins, with croup, bacterial tracheitis, epiglottitis, and retropharyngeal abscess as the leading aetiologies. Epiglottitis is a sporadic illness among children in the post-Hib vaccination era, with Hib as the leading etiologic

agent, primarily in unvaccinated, immune-compromised, and adult patients<sup>[3]</sup>. Despite the marked decrease in invasive Hib disease, caregivers should continue to consider the pathogen *H influenzae* as a possible aetiology in acute epiglottitis, with a  $\beta$ -lactam/ $\beta$ -lactamase inhibitors or third-generation cephalosporin being first-line treatment. Vaccine failure is defined as a case occurring after at least two doses of vaccine given in the first year of life or after a single vaccination given to children at the age of 12 months or more<sup>[4]</sup>. Vaccine failure may be related in part to genetic factors, and that most vaccinated children in whom *Haemophilus influenzae* disease develops have deficient antibody responses to the type b polysaccharide despite normal serum concentrations of immunoglobulin and normal antibody responses to tetanus toxoid<sup>[5]</sup>.

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