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## Acute Epiglottitis (Supraglottitis)

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Acute inflammation and edema of the epiglottis is a catastrophic illness, often leading to a sudden and unexpected asphyxia. Many victims die too quickly for medical attention or receive improper medical assistance. This report presents seven cases of fatal epiglottitis from a coroner's autopsy service (Table 1). None of the victims had been hospitalized. Six victims had sought medical assistance. The cases stress the fulminant course and the difficult diagnosis of acute epiglottitis. Accurate records on the incidence of acute epiglottitis may be supplemented by coroner-medical examiners' investigations. Failure to examine the epiglottis during the postmortem examination may disguise the true incidence of this disease.

### Comment

Acute epiglottitis is characterized by cherry-red inflammation and marked edema, usually limited to the supraglottic area. The epiglottis curls posteriorly and inferiorly to diminish the glottic aperture. Forced inspiration and a mucous plug can further reduce the glottic opening [1]. The epiglottis may be thickened up to 1 cm and the glottic aperture narrowed to 0.1 cm. Microscopically, there is superficial or deep ulceration of the non-keratinized stratified squamous epithelium or the pseudostratified ciliated columnar epithelium of the epiglottis. Edema and polymorphonuclear leukocytic infiltration of the submucosa to the perichondrium of the elastic cartilaginous tissue is noted. Necrosis may involve the vascular walls, the smooth muscle, and apocrine glands [2]. *Hemophilus influenzae* Type B is the most frequent incriminating organism [3,4].

Supraglottitis may initially masquerade as a simple cough or a cold. The presenting symptoms are minor, consisting of a sore throat, fever, or vomiting. The sore throat may precede the major symptoms by only 3 or 4 h. Respiratory distress is of short duration. Rapidly following these symptoms are a catastrophic sequence of dyspnea, cyanosis, and asphyxia. Inspiratory stridor develops as the swollen epiglottis acts as a foreign body in the posterior oropharynx. The abrupt onset and rapid progression of this disease to fatal respiratory obstruction dictates prompt recognition and appropriate treatment [3-6].

Differential diagnosis includes laryngotracheal bronchitis, peritonsillar and retropharyngeal abscess, angioneurotic edema, diphtheria, and foreign body obstruction [5,7]. The death may present as a sudden infant death syndrome or a viral pneumonia.

Immediate treatment requires airway maintenance and antibiotics. Culture of the epiglottis and blood should be taken prior to the institution of antibiotics in the living patient and during the autopsy in the decedent. Blood cultures are considerably more reliable [8].

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TABLE 1—Case reports.

Case	Age/Sex	First Contact	Time	Disposition	Death
1	44 years/male	physician's office	1:00 p.m.	sent home; bed-rest, fluids, and aspirin	5:45 p.m.
2	29 months/female	physician's office	10:55 p.m.	sent home	2:45 p.m.
3	58 years/male	hospital	6:45 p.m.	tracheostomy	9:10 p.m.
4	34 years/male	telephone call to physician	early evening	prescription	9:35 p.m.
5	19 years/female	hospital	12:20 p.m.	dead on arrival	12:20 p.m.
6	41 years/male	two telephone calls to physician	12:00 noon	none	1:40 p.m.
7	20 months/male	hospital	12:15 a.m.	sent home; penicillin and aspirin	3:47 p.m.

It has been estimated that epiglottitis occurs in one in 1000 hospital admissions [5]. Epiglottitis is often incorrectly characterized as a disease limited to children. The case findings demonstrate that this is a wrong assumption. Reports indicate 12 to 21% of patients are adults [4,8-11]. This disease may be seen at any time during the entire life span of an individual.

### Summary

During an autopsy the clinician, as well as the pathologist, should insist on a culture and adequate examination of the neck. Failure to examine the neck structures in this catastrophic illness may result in an incorrect determination of the cause of death [12,13]. Many autopsy surgeons assume pneumonia is present but later find only microscopic evidence of pulmonary edema. By then the decedent has been buried. Untreated fatalities are seldom reported [3,5,14]. Future reports should include statistics from the medical examiner's or coroner's office in their jurisdiction. This will promote knowledge of the true incidence of acute epiglottitis.

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