

AN UNUSUAL AIRWAY OBSTRUCTION: A CASE REPORT

Among the abnormalities which may be seen during laryngoscopy for endotracheal intubation are: (1) Vocal nodules which are made up of fibrous or vascular tissues, are always benign and are caused by excessive use of the voice. (2) Cysts attached to the anterior surface of the epiglottis. These are also benign and need not interfere with successful passage of an endotracheal tube. (3) Leukoplakia of the larynx, involving the entire length of the vocal cord and characterized by whitish patches on the mucous membrane. (4) Contact ulcer of the larynx and erosion of one or both cords. (5) Granulomas. (6) Cancer. (7) Polyp. (8) Papilloma (1).

The following case is reported as an unusual type of obstruction of the airway encountered during laryngoscopy.

A 52-year-old white woman was given intravenously 300 mg. of sodium pentothal with 2 mg. of succinylcholine for the purpose of passing an endotracheal tube prior to operation for obstruction of the biliary tract. When an attempt was made to administer oxygen by mask and breathing bag, the sensation was that of squeezing the re-breathing bag with the obturator closed. Cyanosis progressed and the insertion of an oral airway made no difference. Laryngoscopy was easily done. The top of the laryngoscope was placed far enough down to visualize the esophageal opening and then slowly moved anteriorly with the hope of seeing the vocal cords. Instead, a continuous fold of mucous membrane was visible between the esophagus and the epiglottis. Its surface was smooth and pink and there were no lines of demarcation, creating the illusion that this patient had an esophageal orifice with an intact mucous membrane between the esophagus and the base of the epiglottis.

As the cyanosis reached alarming proportions and as there was no visible channel into which to insert an endotracheal tube, the oropharyngeal airway was reinserted and a second attempt made to inflate the lungs by compressing the breathing bag, to no avail. In desperation, the head was turned to the right, as some people have a better airway with the head in a lateral position. This maneuver did allow the entrance of air into the lungs, but

with difficulty, and with a high pitched noise indicative of a narrow orifice. By rapid compression of the breathing bag it was possible to correct the cyanosis even though the airway was so narrow as to require considerable force on the breathing bag.

After ten minutes, some spontaneous respiration efforts replaced the apnea produced by succinylcholine and pentothal, and it was found easier to inflate the lungs. In another few moments, assisted respirations of sufficient depth to keep the patient well oxygenated were easily performed, but only when the patient's head was turned to the right and the mandible kept well forward. At this time, laryngoscopy was repeated, and the tonsus of the pharyngeal musculature was better, as indicated by some swallowing. A small portion of the left vocal cord could be seen for the first time. The right vocal cord was not visible. In its usual location there was a smooth-surfaced cyst attached to the right arytenoid cartilage, extending over and obscuring the right vocal cord completely, and reaching beyond the midline of the glottis. Only a narrow slit about the width of a dime existed between the left vocal cord and the cyst. As the tonsus of the pharyngeal muscle increased, the width of the space between the left vocal cord and the medial border of the cyst widened, and eventually the medial margin of the right vocal cord could be seen. Fifteen minutes later, unobstructed spontaneous respiratory excursions were present.

An otolaryngologist (F. L.) was called in at this time to view the larynx, and his description is as follows:

"Direct laryngoscopy reveals a 3 to 4 cm. globular mass originating from the posterior aspect of the right arytenoid process of the larynx. The mucous membrane covering this mass appears to be of normal consistency and thickness. This probably represents a mucous cyst arising from the mucous glands in this area."

SUMMARY

A case of an unsuspected mucous cyst of the right arytenoid process of the larynx

is presented. There was no indication of respiratory obstruction until a flaccid paralysis of the pharyngeal and laryngeal musculature was produced by anesthesia with pentothal and syncurine. It must be recognized that the distortion of the normal anatomic relationships of the pharynx and larynx by anesthesia may precipitate a mechanical type of occlusion of the airway in persons who otherwise can maintain patent airways while awake or during normal sleep without drugs. The importance of including the larynx in any autopsy of a patient who dies during anesthesia is apparent as it may reveal such unsuspected causes of asphyxia. In this case, the asphyxia was relieved by lateral

rotation of the head and neck until the return of muscle tonus permitted maintenance of an aperture between the left vocal cord and the mucous cyst of the right arytenoid cartilage. Subsequent to this, the anesthetic and surgical course was uneventful.

REFERENCE

1. Cuning, D. S.: *Diagnosis and Treatment of Laryngeal Tumors*, J. A. M. A. **142**: 73-77 (Jan. 14) 1950.

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A STILET FOR ENDOTRACHEAL INTUBATION

A frequent source of difficulty in successful transoral intubation of the trachea is found in the semilunar curvature of the Magill tube whether it be made of rubber or Portex tubing. Inasmuch as the visual

pathway between the anesthesiologist and the glottis, after exposure by laryngoscopy, is a straight line, it would seem rational to utilize a tube which is itself straight. Empirically, however, the passage of a straight

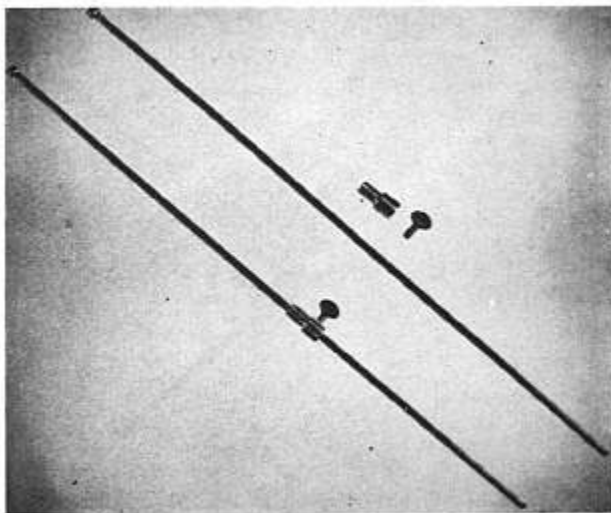


FIG. 1.