

Airway Management of a Patient with a Tracheal Mass

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Citation

T Schaefer, R Litman. *Airway Management of a Patient with a Tracheal Mass*. The Internet Journal of Anesthesiology. 2002 Volume 6 Number 2.

Abstract

This case report describes a case of difficult and compromised airway due to a mediastinal mass.

CASE REPORT

A 67 year-old homeless male was admitted to the hospital because of a change in mental status following a fall. His past medical history included COPD, hepatitis, cerebral aneurysm, and chronic alcohol and tobacco abuse. The review of symptoms was significant for a 30 pound weight loss, anorexia, dysphagia, and productive cough. Pertinent findings on physical exam included dysphonia and expiratory stridor.

A CT scan of the chest revealed an anterior mediastinal mass and mediastinal adenopathy. A CT scan of the neck region revealed a left-sided mass that caused distortion of the upper airway at the glottic (Figure 1) and subglottic (Figure 2) levels.

Figure 1

Figure 1. The CT scan is taken at the glottic level where it can be seen that the tumor mass is pushing the airway to the patient's right side and distorting its shape.

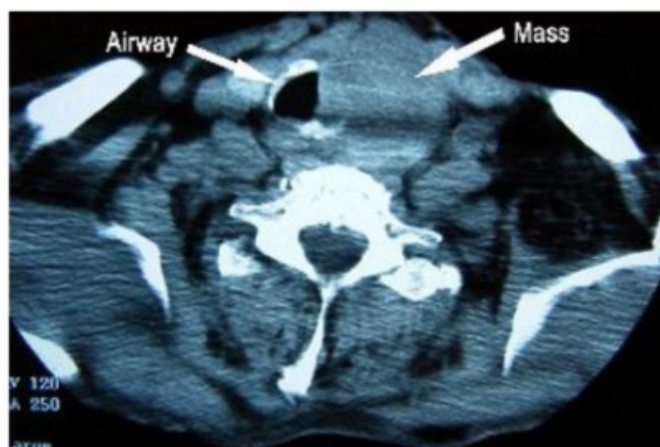
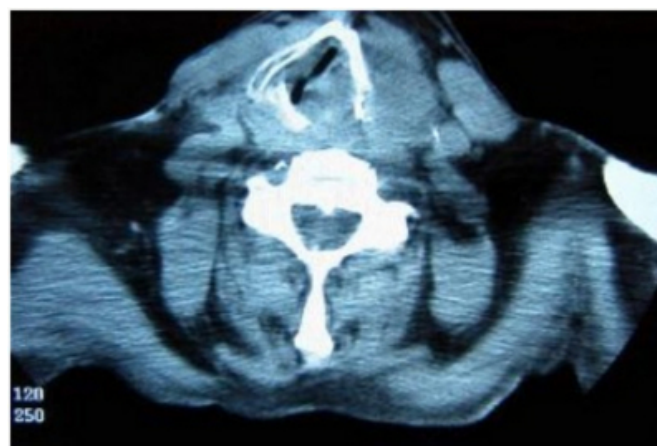


Figure 2

Figure 2. More severe compression and distortion of the trachea at a more caudad level.



The patient was taken to the OR for direct laryngoscopy and biopsy of the neck mass. An awake fiberoptic intubation was planned. Bilateral superior laryngeal nerve blocks were performed with 2% lidocaine. Trans-tracheal anesthesia was attempted, but unsuccessful secondary to inability to definitively locate the tracheal lumen because of tumor effect. Flexible fiberoptic bronchoscopy revealed a complete loss of landmarks beyond the tongue base and marked rightward deviation of the trachea, and thus, inability to pass an endotracheal tube. An awake tracheostomy was performed using a flexible wire-reinforced endotracheal tube because of tracheal compression.

DISCUSSION

This case represents an example of both a difficult intubation and compromised airway. Induction of general anesthesia in this patient would have been extremely dangerous because of the high likelihood of tracheal collapse with the onset of muscle relaxation. It is also likely that positive pressure

ventilation would have been unsuccessful. The CT scans impressively demonstrate significant tracheal compression in the upper airway below the level of the mandible. Flexible fiberoptic bronchoscopy can be advantageous by decreasing the stimulation caused by endotracheal intubation while a patient is awake. But its usefulness is limited when the anatomy below the level of the mandible is altered, as in this case. In retrospect, the CT scan findings indicated that an orotracheal intubation would have been highly unlikely, and

an awake tracheostomy was the only reasonable option.

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References

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