if a 1-percent solution is adequate. We use 5 ml of a 4-percent solution of lidocaine (for a total of 200 mg) to anesthetize the larynx and tracheobronchial tree. We have now performed over 4,500 examinations with the fiberoptic bronchoscope using the oral route of intubation and have encountered no episodes of serious laryngospasm.

More importantly, we premedicate any asthmatic patient, whether symptomatic or asymptomatic, with a drip infusion of aminophylline, giving 100 to 300 mg before and during the procedure and more during the postbronchoscopic period if any suggestion of bronchospasm appears. We can also leave the oral airway in place if it appears as though the patient may be in some distress. Having the intravenous needle in place for the drip infusion of aminophylline also gives us a quick route for administering a steroid bolus, should it be needed.

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Iatrogenic Superior Vena Cava Syndrome
A Complication of Internal Jugular Venous Catheters

To the Editor:

English and associates1 have described the percutaneous catheterization of the internal jugular vein. The rate of major complications ranges from 0.2 percent1 to 0.3 percent.2 The reported complications include extravasation of fluids,3 pneumothorax,1 laceration of the ascending cervical artery,4 air embolism,5 mediastinal infiltration,4 extensive neurologic damage,4 and thrombophlebitis with sepsis.4 Minor complications, such as hematomas, carotid arterial puncture, and catheterization of the internal mammary vein are not included in these complication rates.

This case report details the placement of an internal jugular venous catheter which resulted in superior vena cava syndrome in a patient with a superior sulcus tumor.

CASE REPORT

A 71-year-old Mexican American man had a history of periumbilical pain for two months, a 9-kg (20-lb) weight loss, and a long history of smoking, but denied any history of tuberculosis.

On physical examination, bronchial breath sounds were present in the right apex, with scattered rales throughout the chest. There was no compromise of the brachial plexus, Horner’s syndrome was absent, and there were no stigmata of obstruction of the superior vena cava.

The chest x-ray film on admission demonstrated a mass in the apex of the right lung, with associated deviation of the trachea to the right and volume loss on that side. Following precipitous upper gastrointestinal bleeding, a catheter was placed into the right internal jugular vein during resuscitation. Subsequently, superior vena cava syndrome developed in two hours, despite a central venous pressure of 3.0 cm H2O. A catheter was introduced into the left antecubital vein, and subsequent injection of contrast material demonstrated the narrowed superior vena cava seen in Figure 1.

Following the removal of the catheter from the right internal jugular vein, the superior vena cava syndrome completely resolved.

DISCUSSION

In this case, passage of the jugular catheter through a compromised superior vena cava precipitated the symptoms of obstruction of the superior vena cava. The initial central venous pressure of 3 cm H2O suggested that there was no obstruction; however, the tip of the catheter had passed through the obstruction to measure the true right atrial pressure.

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Acute Respiratory Distress Associated with Postpneumonectomy Bronchopleural Fistula

To the Editor:

In spite of improved chemotherapy and surgical technique, bronchopleural fistulæ continue to occur following surgery for tuberculosis.1,2 In the majority of cases, sepsis seems to be the primary cause of breakdown of the bronchial closure.3 Most fistulæ develop several weeks after surgery and are not suitable for direct surgical repair. Following adequate drainage of the empyema cavity, obliteration of the space by packing may aid in managing the problem. A rare and potentially lethal complication of this form of management is documented here.

CASE REPORT

In 1967, a 46-year-old man with a 15-year history of inadequately treated tuberculosis was admitted to Harlem Hospital Center with massive hemoptysis from an aspergilloma in the left upper lobe. An emergency lobectomy was required to control the hemorrhage. The patient had an uncomplicated postoperative course and was discharged on a regimen of antituberculous medication.

The patient was lost to follow up but returned in March 1975, again with massive hemoptysis. He was found to have an aspergilloma in the left lower lobe, and an emergency-completion pneumonectomy was performed to control the hemorrhage. The patient's early postoperative course was satisfactory, and he was discharged two weeks after his operation. Six weeks later, he was readmitted with chills, fever, tachycardia, and a productive cough. Aspiration of his left pleural space yielded purulent fluid that was culture-positive for Staphylococcus aureus. Following rib resection and drainage of the pleural space, a large bronchopleural fistula became evident. The fistula-empyema was managed by frequently changed antibiotic-soaked gauze packs, and the infection was controlled.

An eight-rib Estlander's thoracoplasty was performed in December 1975. This significantly reduced but did not obliterate the pleural space or bronchopleural fistula, and the relatively small residual cavity was managed by placement of a strip of 1-inch gauze soaked with an antibiotic solution. On the 18th postoperative day, the patient suddenly became dyspneic, cyanotic, and aphonic. Initially, a massive pulmonary embolus was suspected; however, on examination, one end of the gauze strip was visible in the posterior pharynx, and the other end protruded from the drainage site on the lateral left side of the chest wall. The gauze was rapidly extracted through the defect in the chest wall. Normal respiration and speech returned promptly, and there were no further respiratory problems.

DISCUSSION

This is a previously unreported and potentially fatal complication of an established bronchopleural fistula. Packing with gauze is useful occasionally in the management of small empyema spaces associated with bronchopleural fistulæ. It may be particularly useful whenever positive-pressure ventilation is needed, as during anesthesia. The aspiration of secretions from the empyema space is also prevented by the placement of the packing; however, as this case demonstrates, the packing itself may be aspirated through the fistula into the tracheobronchial tree. When this happens, the gauze could obstruct the opposite bronchus or by stimulating a cough reflex could migrate through the cords into the pharynx. In either case, acute airway obstruction is produced. Most empyema cavities permit insertion of packing of sufficient caliber to be too large to pass through the bronchial opening. Following thoracoplasty, the remaining space is sometimes so small that only a thin strip of gauze can be inserted. Under that circumstance, aspiration of gauze might occur. When such an accident is suspected, the packing should be removed through the chest wound to avoid potential additional damage to the open bronchial stump and to prevent additional contamination of the tracheobronchial tree by the purulent contents of the empyemic cavity.

This rare complication must be considered in any patient who develops respiratory distress in the presence of a bronchopleural fistula and a gauze-packed empyema cavity. If recognized, it is easily managed; if not, early respiratory arrest and death may occur.

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