the 77th postoperative day and was moved into sheltered accommodation for the elderly.

Comment

Although the exact incidence of dentures as gastrointestinal foreign bodies is not known, it represents a significant problem because of a high rate of morbidity and mortality. Because elderly people with dementia cannot explain precise symptoms or medical history, it is especially tricky to diagnose their problems as swallowed foreign bodies. A significant number of ingested bulky foreign bodies get lodged in areas of anatomic esophageal narrowing with the danger of impaction, ulceration, and perforation in those areas. Because dentures are hard and complicated forms, sometimes with sharp or uneven surfaces, the risk of esophageal injury leading to perforation or penetration is high. If possible, impacted dentures in the esophagus should be removed by careful endoscopic approach. Several endoscopic procedures are available for retrieval, such as extraction with forceps, balloon extraction, bougienage, and magnetic extraction [2, 3]. By contrast, the large size, sharp edges, and metal clasps of dentures make endoscopic extraction unsalable [4]. In the patient presented here, endoscopic removal was impossible because the impacted denture had already migrated into the lung parenchyma through an esophagopulmonary fistula. In cases not amenable to endoscopic removal, thoracotomy or thoracoscopic surgery is necessary [5].

If early extraction of the foreign body is not performed, pressure on the esophageal wall can lead to necrosis followed by penetration or perforation. Because of the close relationship between the esophagus and the aorta, an impacted denture can even penetrate the aorta [6]. In addition, morbidity and mortality after esophageal perforation is high because it is often followed by fulminant sepsis owing to severe intrathoracic infection, mediastinitis, and pleural empyema. Fortunately, in our patient there were no signs of septic status, mediastinitis, or empyema in spite of severe lung abscess formation. We speculated that the reason for lung abscess formation without a recognizable mediastinitis is that the esophagus was tightly adhered to the adjacent lung parenchyma in the early stage, or had already formed adherence in the past. Then the impacted denture was drawn into the lung parenchyma with the negative pressure of the thoracic cavity. Thanks to these favorable conditions, the operation and postoperative management were successful.

References

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Conservative Management of Intraoperative Tracheal Injury During Cardiac Operations

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Iatrogenic intraoperative tracheal injuries are rare in cardiac operations. Management of this complication is not well described because of the low incidence and lack of reported cases. We present an 82-year-old woman who sustained a tracheal injury during aortic valve replacement. Soft tissue coverage of the trachea was obtained, the original cardiac operation was completed, and she was otherwise managed conservatively. She recovered without further complication and was discharged home 1 week after the surgical procedure.


Tracheal injury during cardiac operations is a very rare complication, with only a few cases reported in the literature [1, 2]. Management of this condition is not well described because of its rarity. We present an elderly woman who underwent an aortic valve replacement and had an iatrogenic injury that resulted in a full-thickness defect in the anterior wall of the trachea.

An 82-year-old woman with a 1-year history of progressive fatigue was diagnosed with severe aortic stenosis (aortic valve area, 0.8 cm²) and presented for aortic valve replacement. The patient was taken to the operating room, and intubation with a 7.5-mm endotracheal tube, which was secured at 23 cm at the level of the incisors, was uneventful. After median sternotomy was performed, several air bubbles were seen in the surgical field at the superior mediastinum. There was no identifiable air leak on the ventilator circuit, and there was no difficulty oxygenating or ventilating the patient. Careful inspection revealed a 1-cm longitudinal tear on the anterior trachea. The tracheal defect included part of 2 adjacent tracheal rings and the...
soft tissue between them. An iatrogenic injury by electrocautery at the level of the sternal notch during preparation for sternotomy was suspected as the cause. There was a close relationship of the trachea to the superior aspect of the manubrium in this small-framed elderly woman (Fig 1).

On discovery of this tear, the procedure was paused and the anesthesiologist was alerted to the tracheal injury. The endotracheal tube was then advanced past the injury and the cuff was reinflated just superior to the carina, where it was left throughout the operative and postoperative period. At this time, no additional air bubbles could be seen in the operative field. A primary repair was then attempted on the tracheal defect. Unfortunately, the trachea was very calcific and would not hold sutures for approximation of the edges of the defect. The hole was left unsutured, and it was then covered with overlying thymic fat, which was secured in place with absorbable sutures.

It was then decided to proceed with the scheduled aortic valve replacement. Aortic and venous cannulation was performed in standard fashion, and cardiopulmonary bypass circulation was established after cardiac arrest with cardioplegia. The rest of the procedure went without complication. A Blake drain was placed in the pretracheal space in addition to 2 mediastinal Blake drains. Postoperatively, the patient began a 7-day course of broad-spectrum antibiotics to cover any potential contamination of the surgical wound or mediastinum. She was kept intubated postoperatively for 4 days to allow the trachea to heal.

The patient was extubated in the intensive care unit with members of the cardiac surgery and anesthesiology team present. An operating room was standing on call to place a covered tracheal stent in case any signs of a persistent tracheal tear developed, such as an air leak from the pretracheal drain or development of subcutaneous emphysema. A chest roentgenogram was obtained immediately after extubation and did not show any subcutaneous emphysema. After 15 minutes, another chest roentgenogram was obtained, which remained unchanged. The patient continued to do well over the following days and was discharged in good condition by the eighth postoperative day. She did not experience mediastinitis, stridor, subcutaneous emphysema, or any respiratory distress. She remained asymptomatic at follow-up 30 days after the procedure.

Comment

Tracheal injury is a rare complication of cardiac operations, and its management is not well described. It has been described more often as a complication of endotracheal intubation, in which various treatment options are used. These range from conservative management to open surgical repair including tracheal resection [3]. Takanami and associates [1] described 1 case of tracheal laceration during median sternotomy. A primary repair of the trachea was performed, which was then covered with overlying soft tissue with good results; however, the original planned operation was aborted at that time. Choudhury and colleagues [2] described a case in which the trachea was also able to be primarily repaired, and the originally scheduled operation (mitral valve replacement) was performed after repair of the trachea. A major concern with tracheal injury is the potential for contamination of the sterile field from tracheal secretions. There is little evidence to support whether a valve replacement or any other cardiac procedure with an implant can be performed safely in this scenario. A similar situation could be seen with small air leaks from iatrogenic lung injuries, which are common during cardiac surgical procedures; however, operations are not aborted, because these small lung injuries do not appear to increase the risk of infection.

Another patient population somewhat analogous to that with intraoperative tracheal injury is the tracheostomy population. Several major differences exist in patients with tracheostomies, however, including that patients with tracheostomies have large amount of secretions as well and chronic bacterial colonization. In patients with preexisting tracheostomies, higher rates of mediastinitis have been suggested, although there are very few case reports in the literature [4]. There are much more data on patients who require postoperative tracheostomies. Mediastinitis is more common in these patients than in those who do not require tracheostomies, although it is unclear if the higher rate of infection results from the tracheostomy itself or from the presence of underlying comorbidities in these sick patients [5]. We believe that our case was much more similar to a small lung injury, because the tracheal defect was small without gross

Fig 1. Computed tomographic scan demonstrating close relationship of manubrium to trachea.
Periareolar Approach for Thoracoscopic Lobectomy

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In recent years advances in video-assisted thoracoscopic surgery have been aimed at reducing the number of video surgery ports, and especially major lung resections pose the greatest challenge. We describe a new minimally invasive as well as aesthetic approach for thoracoscopic lobectomy. The technique poses no difficulty for the surgeon and has certain advantages over other video-thoracoscopic approaches.


Minimally invasive surgical techniques are gaining ground over conventional open thoracic surgery. Major lung resections pose the greatest challenge, and in recent years advances in video-assisted thoracoscopic surgery have been aimed at reducing the number of video surgery ports. We describe a new minimally invasive as well as aesthetic approach for thoracoscopic lobectomy. The technique poses no difficulty for the surgeon and has certain advantages over other videothoracoscopic approaches.

A 53-year-old former smoker with a 60-pack-year history was studied for an incidental finding of a pulmonary nodule in the left lower lobe when he was screened for a chest pain episode. Computed tomography of the brain showed a lacunar infarct in the lenticular nucleus and right periventricular white matter hypoattenuation related to possible ischemic disease. A thoracoabdominal computed tomographic scan showed an air cavity in the right lung apex, left apical pleural thickening, and a 1.1-cm nodule with homogeneous attenuation in the apical segment of the left lower lobe with spiculated margins and adhesions to adjacent pleura. There was no evidence of pleural effusion, the upper abdomen was unremarkable, and no notable mediastinal lymphadenopathy was detected. Spirometry showed a predicted forced expiratory volume in 1 second of 84% (2,250 mL/s), and a predicted forced vital capacity of 105% (3,740 mL). Positron emission tomography showed an apparently malignant pulmonary...

References

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