

Case Report

Tracheal Perforation due to Suicide Attempt

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Abstract

Tracheal-bronchial injuries require immediate airway control and surgical repair. Cervical trachea injury can include vascular, thyroid, esophageal, and nerve injuries, so exploration is important. Respiratory distress occurs in more than half of these patients. A 27-year-old patient with known psychiatric illness was brought to the emergency department with a tracheal injury. The physical examination revealed dyspnea. There were doubts about the incision line. The airway was observed. The patient was intubated with a number 7 endotracheal tube and underwent emergency surgery. During exploration of the thyroid cartilage, a 2-cm perforation in the trachea was observed and sutured. An air leakage check was performed and the operation was completed.

Keywords: Airway injury, cervical penetrating trauma, tracheal perforation, tracheobronchial injury

Tracheal injuries are among rarely observed injuries; they are categorized in three main groups as injuries related to external trauma, injuries related to iatrogenic trauma and injuries related to inhalation trauma.^[1] It has been reported that tracheal incisions following blunt and cutaneous trauma are observed with a rate of 7.6%. Airway control and emergent surgical repair are needed for tracheal and bronchial injuries.^[2] Vascular structures, thyroid, esophagus and nerve injuries can also be observed with cervical tracheal injuries, therefore exploration has significance.^[3] More than half of the cited patients suffer from respiratory distress. We targeted to present a patient who was evaluated at the emergency unit and decided to receive an urgent surgery because it was a suicide attempt in this case report.

Case Report

A 27-year-old patient having known psychiatric complaints was brought to the emergency unit following tracheal in-

jury. It was learned from the story of the patient that the patient swallowed a foreign substance approximately 2 months ago to commit suicide and had undergone laparotomy operation and the tracheal injury was due to the said suicide attempt.

General status of the patient was found to be moderate while the respiration thereof was dyspneic in the physical examination carried out. Lines of hesitation proving the suicide attempt on the place of cut were available while air entry and exit was observed in the perforation area. Subcutaneous emphysema in the cervical region was observed in patient's lung and cervical radiographies (Fig. 1, 2).

The patient was taken to operation urgently due to suicide attempt and the patient was intubated with endotracheal tube no 7 by controlling the cut. Perforation of up to 2 cm in the level of the second tracheal cartilage ring in the cervical trachea was detected while there was no neurovascular injury in the exploration conducted (Fig. 3). Hemostasis was provided in thyroid tissue's bleeding foci. The cut in the



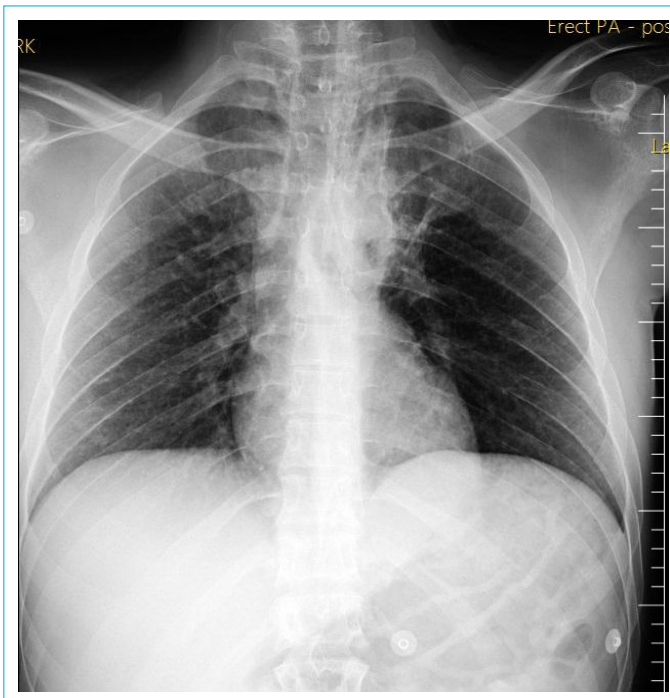


Figure 1. Subcutaneous emphysema in the cervical region is observed in PA chest X-ray.

trachea was sutured one by one by virtue of 3.0 PDS stitches. The endotracheal tube was withdrawn in a controlled way following the repair and air leakage control was made in the perforation area and the patient was taken to intensive care subsequent to completion of the procedure.

The patient's neck motion was restricted and the patient was sedated by virtue of midazolam by consulting to the psychiatric department inasmuch as the case was a suicide attempt. The patient who had no drainage was drained in the postoperative follow-up, and because was no additional problem occurred in the clinic follow-up, the patient was referred to the psychiatric hospital and discharged on the 5th postoperative day.

Discussion

Cervical tracheal injuries may provide different findings depending on penetrant or blunt injuries. Tracheal injury should be excluded in patients having severe cervico-thoracic injuries depending on the severity of the trauma.^[3] Various symptoms such as neck pain, dyspnea, cough, hemoptysis, vocalization, dysphagia can be observed during swallowing.

Cyanosis, vocal cord paralysis, anaphylaxis, neck, shoulder and widespread subcutaneous emphysema are significant findings in physical examination.^[4] Cervical lateral radiography, PA lung and lateral chest X-ray have to be preferred in diagnosis at the first stage and subcutaneous emphyse-

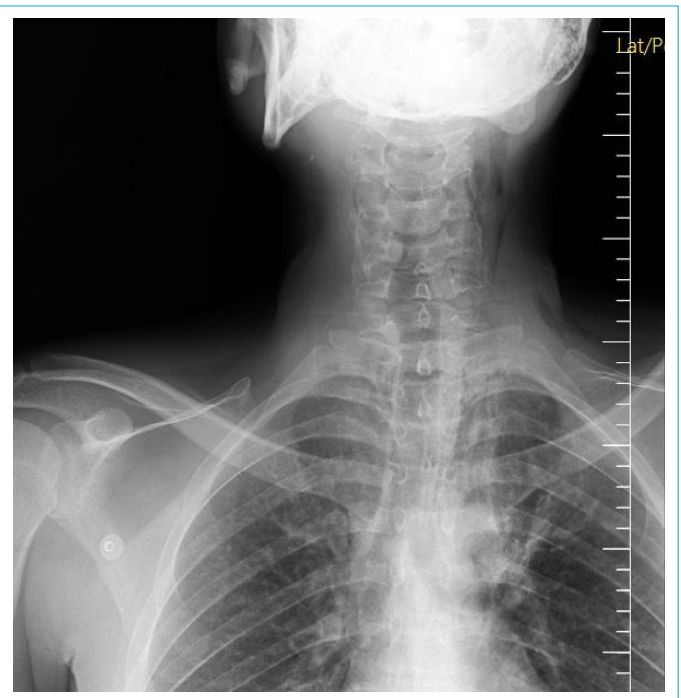


Figure 2. Subcutaneous emphysema is observed in cervical back-front radiography.

ma, pneumomediastinum, and pneumothorax may be observed on chest X-ray.^[5, 6] Other techniques utilized for diagnosis include cervical CT, thoracic CT and bronchoscopy.^[6]

Much as repair is generally preferred by primary surgical repair, treatment can be achieved by conservative approach the majority of iatrogenic injuries.^[1-3] Almasi et al.^[7] advocate conduction of surgical exploration although there is no respiratory complaint in the patient with cervical em-



Figure 3. Tracheal incision, lines of hesitation (white arrow), thyroid tissue (black arrow) are observed.

physema and radiological findings are not detected in their works where they present the case of tracheal injury due to blunt trauma. The exploration area can be expanded by taking into consideration the injury in the surrounding tissues. Vein, nerve and esophageal injuries have to be controlled while repair may be applied in additional tissue injuries.^[8]

Coordination of anesthesia and surgeon are very essential during tracheal-bronchial injuries. Depending on the condition of the injury, general anesthesia conditions without single lung ventilation, fiberoptic intubation, jet ventilation, apneic respiration, and neuromuscular blockade may be required.^[9]

Conclusion

Early surgical exploration and repair must be preferred for patients having significant respiratory distress, like in our case. Control with flexible or rigid bronchoscopy must be made to patients undergoing tracheal repair routinely in terms of post-traumatic tracheal stenosis. Because our patient was referred to a psychiatric hospital, patient's control with bronchoscopy in terms of tracheal stenosis could not be performed.

Disclosures

Peer-review: Externally peer-reviewed.

Conflict of Interest: None declared.

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