

Iatrogenic tracheal foreign body: Stylet

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Abstract

Iatrogenic tracheal foreign bodies are infrequent complications in adults. We aim to report the removal of a broken stylet from the right main bronchus using flexible bronchoscopy during endotracheal intubation. The patient, who was being monitored for ischemic stroke and was intubated due to respiratory distress, was transferred to our care when it was noticed that the intubation stylet was broken. The broken stylet was successfully removed by thoracic surgery using flexible bronchoscopy. Therefore, it is crucial for intubation to be performed by experienced professionals, and the repeated use of the stylet should be avoided.

Keywords: complication, endotracheal, foreign-body migration, intubation

1. Introduction

An iatrogenic tracheal foreign body is rare in adults. In the literature, there are reported cases of iatrogenic tracheal foreign bodies following situations requiring emergency surgical intervention, difficult tracheotomy, high intraoperative bleeding, and involvement of multiple surgical teams (1).

Coughing, dyspnea, and stridor are the most common symptoms of foreign body aspiration (2). Although symptoms are usually prominent, they may vary among individuals and may spontaneously decrease (3).

Radiological findings may vary depending on the foreign body's size and location and the exposure duration (2). Atelectasis, consolidation, emphysema, pneumonia, pneumothorax, and pneumomediastinum may be observed (4).

In this study, we aim to present a patient referred to our clinic after the migration of a broken stylet to the right main bronchus during endotracheal intubation in light of the literature.

2. Case report

Endotracheal intubation was planned for a 60-year-old male patient with known bronchiectasis and atrial fibrillation after he developed respiratory distress in the center where he was being monitored for a cerebrovascular accident. Elective intubation was scheduled for the patient, who had a Glasgow Coma Score of 7 and increased respiratory effort. Unfortunately, we lack detailed information about the patient's intubation process.

Following endotracheal intubation, a chest radiograph was obtained, revealing a broken stylet. The radiograph displayed a foreign body in the right main bronchus (Fig. 1). The patient, with a foreign body in the right main bronchus, was referred to our facility for necessary thoracic surgical follow-up and treatment. The patient arrived under sedation and was accompanied by an ambulance.



Fig. 1. Foreign body detected on chest X-ray

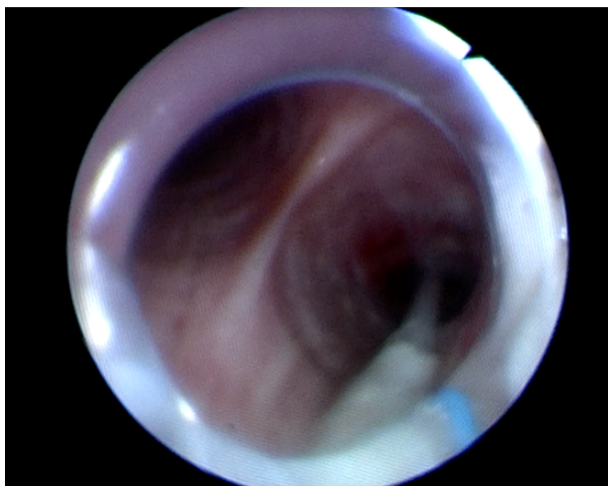


Fig. 2. Foreign body seen at the entrance of the right main bronchus with bronchoscopy

Physical examination of the patient revealed arterial blood pressure of 120/70 mmHg, a pulse rate of 86/min, and a respiratory rate of 16/min. Respiratory sounds were normal bilaterally, leading to a consultation with the thoracic surgery team. Subsequently, the foreign body was successfully removed through flexible bronchoscopy (**Fig. 2 and 3**). The bronchoscopy did not reveal any additional pathology, and the patient was referred back to the center where she was originally being monitored, as there were no post-operative complications



Fig. 3. The view of the broken styler after removal with the bronchoscope

3. Discussion

Tracheal foreign bodies are important because they are a life-threatening condition. The severity of symptoms varies depending on the size of the foreign body and how long it has been present (2). Cough, dyspnea, and stridor may be observed. Severe clinical manifestations, such as pulmonary hemorrhage, tracheoesophageal fistula, and mediastinitis, may occur. (2). In adults, foreign bodies in the tracheobronchial region are most commonly seen in neurological disorders and individuals under the influence of alcohol and drugs (5).

Iatrogenic tracheal foreign bodies are rare but are of

particular importance in terms of diagnosis and treatment. The number of cases reported in the literature is limited. Pinder et al. reported that part of the cannula was left in the trachea during the change of the portex cannula after percutaneous tracheotomy. This part was subsequently removed with a bronchoscope (6). Metallic tracheal foreign bodies can be observed on standard X-rays (1). In our case, the metallic nature of the patient's intubation styler allowed its visibility on a standard chest X-ray (**Fig. 1**). The first line of treatment is the removal of the foreign body (7). Iatrogenic foreign bodies have been reported as case reports in the literature. The patient presented here is an unusual case.

The literature has not reported iatrogenic foreign bodies associated with endotracheal intubation. The styler should not be used for repeated intubations; experienced hands should perform endotracheal intubation. Before any medical intervention, including intubation, the materials to be used in the intervention should be carefully checked. Failure to do so may require managing complications not previously reported in the literature. Before any medical intervention, including intubation, the materials to be used in the intervention should be carefully checked.

Informed consent

Informed consent was obtained from the patient's legal guardian, and ethical standards were followed.

Conflict of interest

The authors declare that they have no conflict of interest.

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Authors' contributions

Concept: M.İ., F.Ü., Design: Ö.Y.Ç., Data Collection or Processing: M.İ., C.İ., Analysis or Interpretation: Ö.Y.Ç., F.Ü., Literature Review: M.İ., C.İ., Drafting: M.İ., Ö.Y.Ç.

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