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An Interesting Foreign Body Penetration and Aspiration: Drill Bit Piece

Fazli Yanik[1*], Osman Emre Ersin[1], Yekta Altemur Karamustafaoglu[1], Yener Yoruk[1]

[1] Department of Thoracic Surgery, Trakya University Faculty of Medicine, Edirne, Turkey.

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ABSTRACT

Tracheobronchial foreign body aspiration can be a life-threatening emergency, particularly in pediatric subjects. An aspirated solid or a semisolid object may be lodged in the larynx or trachea (1,2). If the object is large adequate to cause almost complete obstruction of the airway, asphyxia can quickly cause death. Lesser degrees of obstruction or passage of an obstructive object beyond the carina may cause fewer signs and symptoms (3).

Rigid bronchoscopy is a gold standard procedure for foreign body aspiration diagnosis, management, and treatment. Rigid bronchoscopy has a relatively low complication rate and can be safely applied in experienced hands. Foreign body aspiration accounts for 0.16–0.33% of adult bronchoscopic procedures (2-4). Although many different objects have been reported in the literature which aspirated by the oral way, external penetration and aspiration into the trachea other than the oral route is an extremely rare condition. In this article, we present a case of a drill bit piece penetrating through the anterior neck region to the trachea-bronchial system.

Herein we depict a very rare case of aspiration. The patient was admitted to the emergency room with a laceration in the anterior neck region. In his history drill bit piece blew up to the neck region when he was working with the drill machine. He had pain in the neck region with a 1 cm diameter laceration and blood clot (Figure 1.A). Subcutaneous emphysema was detected in the neck region. His blood pressure, heart rate, and oxygen saturation, and blood tests were normal. Posteroanterior chest radiograph and computed tomography indicated with the foreign body was seen in the anterior basal segment bronchus of the right lower lobe and there was also anterior mediastinal and cervical subcutaneous emphysema (Figure 2. A, B, C). We decided to perform rigid bronchoscopy for foreign body removal. In the bronchoscopic examination, there were no obvious pathological findings in the trachea and a drill bit piece was seen in the right anterior basal bronchi that got stuck to the mucosa. There was hemorrhage around the foreign body. After the hemorrhage is aspirated metallic piece was extracted carefully with bronchoscopic optical forceps (Figure 1.B). After the foreign body was removed, hemorrhage was controlled with Ankaferd Blood Stopper (ABS, Ankaferd Health Products Ltd, Turkey) hemostatic agent. No other complications were detected.

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*Corresponding author: Dr. Fazli Yanik, Trakya Universitesi Tip Fakultesi, Gogus Cerrahi Ad, Kat:4, 22000, Edirne, TURKEY; Tel +902842355936 ; Fax number: +90284235593 ; E-mail: fazliyanik@hotmail.com

Figure 1. A: The lasered area in the anterior neck region where the foreign body was penetrated transcervically into the trachea
B: Metalic piece image (drill bit piece) of after removal of foreign body

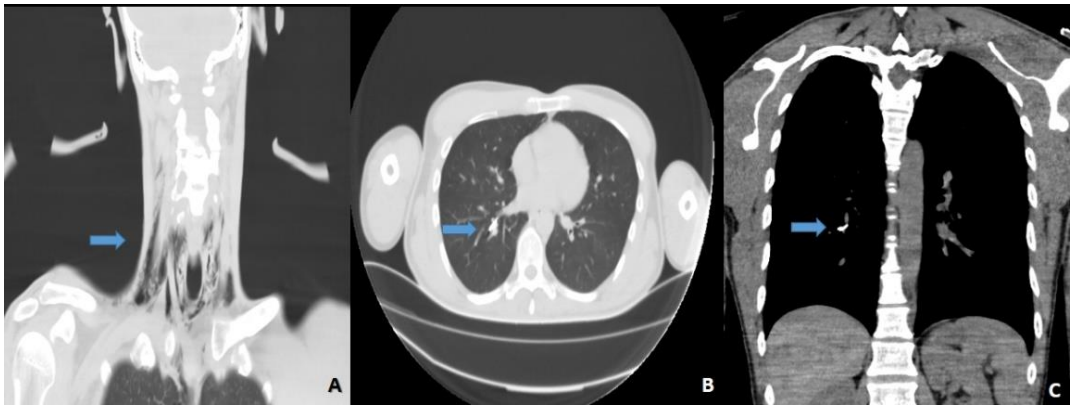

Figure 2. A: Cervical and anterior mediastinal emphysema on coronal cervical CT scan, marked with blue arrow.
B: Image of the foreign body in right lower lobe anterior basal segmen on axial chest CT scan, marked with blue arrow.
C: Image of the the foreign body in right lower lobe anterior basal segment on coronal chest CT scan, marked with blue arrow.

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