## Dental Traumatology

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## LETTER TO THE EDITOR

Dear Sir,

The subject of the case report presented by Yurdakul et al. (1) is interesting. Aspiration of teeth in a patient with a tracheostomy tube is also possible (2) and dental care in such a long-term care patient is important. An 80-year-old man has had chronic atrial fibrillation, and an cerebral vascular accident with bedridden status for 10 years. He underwent tracheostomy for respiratory failure and was successfully weaned. He was unconscious and resided at a nursing home. A new plastic tracheostomy tube was replaced every month. Besides, he had severe dental problems - periodontal disease, several loose and shaky teeth, and dentures. Left mandibular canine exfoliation was noted before this event, but the staff did not find the teeth and did not pay much attention to it. He had just undergone a replacement of a new cuffed plastic tracheostomy tube (Tracheosoft<sup>TM</sup> Standard - I.D 7.5, 10.3 mm OD, Mallinckrodt, Athlone, Ireland) 1 day prior to admission at the nursing home. He suffered from sudden onset of high fever, cough with copious yellowish sputum and mild shortness of breath at the nursing home and he was sent to Wen-Hsiung Hospital, a local hospital in Kaohsiung, Taiwan. His temperature was 38.6°C, Blood pressure 108/ 71 mmHg, heart rate 104 beats min<sup>-1</sup>, respiratory rate was 24 breaths min<sup>-1</sup>. The white blood cell count was 14 400 mm<sup>-3</sup> (Neutrophil 91%). ABG (under nasal cannulae  $21 \text{ min}^{-1}$ ) was PH 7.507 PaCO<sub>2</sub> 24 mmHg, PaO<sub>2</sub> 82.7 mmHg, HCO<sub>3</sub> 19.2, SaO<sub>2</sub> 97.4%; wheezes and inspiratory crackles were audible on the right area of the chest. Right lower lung consolidation was noted in chest x-ray, compatible with pneumonia. However, a radiopaque tooth-like foreign body lodged in his right bronchus was also noted (Fig. 1). We arranged a chest CT and observed that a tooth-like substance impacted his right bronchus that caused lower lung obstructive pneumonia. Because the patient was in a critical condition, he was immediately transferred to Kaohsiung Medical University Hospital and flexible bronchoscopy was performed via the tracheostomy tube orifice. A tooth impacting on the right basal bronchus was noted by bronchoscope (Fig. 2a) and we successfully retrieved the tooth – a  $2 \times 0.5$  cm canine (Fig 2b) was found. He was then transferred back to our hospital and treated with Amoxicillin/Clavulanate. He was discharged from our hospital after 7 days of hospitalization with afebrile status and no leucocytosis. To the best of our knowledge, this report is the first related to an adult patient with tracheostomy and aspirated tooth in English literature, according to a search of Medline. Foreign body



*Fig. 1.* A tooth-like radiopaque foreign body lodged in the patient's right bronchus.

aspiration into the airway is critical and often needs early detection and intervention (3). In patients with permanent tracheostomy stoma, foreign body aspiration though the stoma has been reported (4). However, aspiration of teeth in a patient with a tracheostomy tube has never been reported with the exception of a child who had related small tracheostomy cannulae for the trachea (2). In our unique case, small tracheostomy cannule is not related to the aspiration because the plastic tracheostomy tube had a cuff, was inflated and no air leak was detected. The possible mechanism of the accident event was that he swallowed the spontaneously expulsed tooth while a new tracheostomy tube was being replaced. We should keep the cuff inflated in all bedridden, unconscious patients who have plastic tracheostomy tubes, to avoid the possibility of aspiration pneumonia and of dropping of a tooth into the bronchus while the tracheostomy tube is temporarily removed. Dental problems among older patients are quite common. The patient we presented had severe



Fig. 2. (a) A fusiform tooth impacted right basal bronchus as noted by bronchoscope. (b) A  $2 \times 0.5$  cm canine was retrieved.

dental problems and left mandibular canine exfoliation occurred before this event. Oral hygiene and care should be emphasized more and regular visits to a dentist in a nursing home should be seriously considered. In addition, flexible bronchocopy is one of the possible useful tools for removing the aspirated foreign body (5).

Sincerely,

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