Inhaled tooth in the bronchus: importance of early intervention

S. Jillela* and R. Subrahmanyam

Coventry, UK

*Corresponding author. E-mail: sudheerjillela@gmail.com

Editor—We report here a case of an inhaled tooth into the right bronchus of an intensive therapy unit (ITU) patient, which if undetected, could have been a threat to his life. Foreign-body aspiration is often a serious medical condition and needs early detection and intervention because it could cause complete or incomplete obstruction of the respiratory passages.1

A 61-yr old patient was admitted to the ITU in a small District General Hospital (DGH) with chest sepsis and reduced Glasgow Coma Scale of 12/15. His altered level of consciousness was attributed to sepsis. On admission, an ITU nurse noticed that the patient had one very loose tooth. As the patient was chesty, he was recommended for chest physiotherapy. As the physiotherapist was about to start physiotherapy, the ITU nurse noticed that the loose tooth was missing. A detailed search around the bedside was about to start physiotherapy, the ITU nurse noticed that the tooth had moved further down and impacted the bronchus of an intensive therapy unit (ITU) patient, which if undetected, could have been a threat to his life. Foreign-body aspiration is often a serious medical condition and needs early detection and intervention because it could cause complete or incomplete obstruction of the respiratory passages.1

Aspiration of a tooth is frequently associated with maxillofacial injuries or procedures.2 It is most commonly seen in children, elderly patients, mentally challenged patients, and those suffering from neurological disorders.3 Aspiration of a tooth represents 0.4% of all foreign bodies.4 Immediate complications include respiratory distress, laryngeal oedema, and pneumothorax. Late complications include lung abscess, pneumonia, and asthma. Management of an aspired foreign body is done by obtaining a chest X-ray (lateral and frontal) and computed tomography scan of the thorax, which reveals a radio-opaque foreign body object. Both rigid and flexible bronchoscopes are recommended for the diagnosis and removal of foreign bodies in adults.5 Rarely, an open thoracotomy may be required for successful removal of a dental foreign body.

The Good Anaesthetist6 recommends that ‘An anaesthetist must assess the patient before anaesthesia and devise an appropriate plan of anaesthetic management’. The importance of airway assessment has been highlighted in preoperative assessment and patient preparation, AAGBI, 2010 and practice guidelines of the ASA.7 The National Audit Project 4 (NAP4) also identifies the importance of airway evaluation in all patients who require airway intervention, including patients in the ITU. Currently, it is not routine practice to assess a patient’s airway or dentition during admission to the ITU. If patients are electively intubated, the anaesthetist may be obliged to assess the airway, but in emergency situations airway assessment is hardly carried out. On admission to the ITU, we recommend routine assessment of the airway and documentation. Detailed documentation of any caps, crowns, loose teeth, and dentures must be made during the initial assessment. If the patient is unconscious, alternative routes of extracting information regarding dentures, such as asking close relatives or the patient’s dentist, should be explored where indicated. In the patient reported here, the tooth lodged in the bronchus would have been missed if the nursing staff had not evaluated and reported to the team.

Declaration of interest

None declared.

References

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Editor—The well-being of patients and their families in the stressful environment of the intensive care unit (ICU) is of prime concern for the modern intensivist and the ICU staff. Several scientific societies strongly recommend a 24 h visiting policy in the ICU, modelling the 21st century ‘patient-centred’ ICU.1 Nevertheless, a great geographical disparity exists; ICUs with liberal visiting hours account for only 70% of ICUs in Sweden, 32% in the USA, 7% in France, and 2% in Italy.2

The positive outcome of this measure is well documented from a patient and his or her family’s perspective.3 However, fewer studies have focused on the staff’s perception of such a policy. The most cited drawbacks regarding unrestricted visitation are as follows: fear of care disorganization; loss of control; and fatigue of both patients and staff.45 We aimed to evaluate the evolution of the staff’s perception of this measure over a 3 yr period. Given the initial lack of consensus, this evaluation was a commitment made to our staff, with a return to a restricted visiting policy as a possible result.

Our regional trauma centre adopted an unrestricted visiting policy in April 2010. Nurses’ perception of this measure was analysed 9 months (T1) and 3 yr (T2) after the switch. The survey evaluated the staff’s satisfaction with the extension of visiting hours (impact on quality of care and organization, and effect on staff’s relationship with patients’ families) and their wish to go back to a restricted visiting hours policy. It also included staff data on sex, age, and years of ICU experience. It was developed from a survey used in previous research on the subject4 and was tested prior to investigation. In order to avoid social desirability bias, it was anonymous and self-administered.

Statistical analysis was performed using Fisher’s exact test, a Mann–Whitney U-test and a logistic regression.

Forty-four staff members responded to each step (participation rate of 72%). There were no differences between the two time points in terms of age, sex, and years of experience of the staff members. All respondents had experienced both restricted and liberal visiting hours in their practice. In the years after this major change, a slight disorganization of care schedule (but not its quality) is still perceived but has diminished thanks to the adaptation of our team. This drawback is largely outweighed by the benefits derived from an improved relationship with patients’ families. With time, fewer staff members wish to return to restricted visiting hours (Table 1). Using logistic regression at T2, with growing experience, the ICU nurses could prevent interference with the organization of the care (odds ratio 0.75; 95% confidence interval 0.59–0.94; P=0.01).

We believe that this study may encourage ICU staff and health-care leaders to accept the urgent challenge of liberalizing our visiting policies.

### Declaration of interest

None declared.

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**Table 1** Evolution of staff’s opinion after implementation of a 24 h open visiting policy

<table>
<thead>
<tr>
<th>Opinion</th>
<th>9 months after the switch (n=44)</th>
<th>3 yr after the switch (n=44)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative impact on care quality (%)</td>
<td>14</td>
<td>11</td>
<td>0.5</td>
</tr>
<tr>
<td>Negative impact on care organization (%)</td>
<td>57</td>
<td>27</td>
<td>0.01</td>
</tr>
<tr>
<td>Improved relationship with patients’ families (%)</td>
<td>63</td>
<td>89</td>
<td>0.02</td>
</tr>
<tr>
<td>In favour of returning to a restricted visiting hours policy (%)</td>
<td>23</td>
<td>2</td>
<td>0.007</td>
</tr>
</tbody>
</table>

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**Intensive care unit staff will not go back to restricted visiting hours**

T. Jouot, A. Challan-Belval, B. Floccard and T. Rimmelé*

Lyon, France

*E-mail: thomas.rimmel@chu-lyon.fr

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