Treatment preferences of hospitalized medical patients for life-sustaining interventions and intensive care unit admission

M. Messer¹, W. Huber¹, J. Allmann¹, J. M. Eckes¹, T. Schuster¹, R. M. Schmid¹ and B. Saugel¹,²,*

¹München, Germany, and ²Hamburg, Germany

*Corresponding author. E-mail: bernd.saugel@gmx.de

Editor—In anaesthesia and critical care, physicians are frequently faced with complex decisions regarding life-sustaining therapies in emergency situations. When treating critically ill patients, providing desired and adequate health care for these patients is of paramount importance and a major multidisciplinary clinical challenge.

We therefore aimed to evaluate treatment preferences regarding life-sustaining therapy and intensive care unit (ICU) admission among hospitalized adult medical patients and to evaluate factors influencing these preferences.

The institutional review board approved the study. After obtaining written informed consent, we prospectively interviewed, using a standardized questionnaire, 1021 adult hospitalized medical patients treated on normal wards of a German university hospital regarding their desired level of life-sustaining therapy in the event of an emergency or deterioration of chronic disease(s).

Altogether, 15.5% (95% confidence interval 13.3–17.8%) of patients stated they would decline cardiopulmonary resuscitation (CPR) in the event of a cardiac arrest. Tracheal intubation and mechanical ventilation (ITN) and renal replacement therapy (RRT) was each declined by 8.2% (6.6–10.1%) of patients, ICU treatment by 8.0% (6.4–9.9%), and feeding tube or parenteral nutrition by 8.5% (6.9–10.4%) of patients.

Patients’ preferences regarding life-sustaining interventions depended upon age, sex, and certain chronic medical conditions; patients declining life-sustaining interventions were significantly older compared with patients stating a wish to accept these interventions if necessary (P<0.001 for all procedures).

According to multivariable logistic regression analysis (using age as the adjustment variable) female gender, congestive heart failure, and malignancies were independent predictors of a patient’s decline of life-sustaining interventions (P<0.05).

The corresponding odds ratios with 95% confidence intervals for declining the respective intervention were as follows: (i) for female gender, CPR 1.77 (1.23–2.55), ITN 2.09 (1.29–3.38), RRT 2.05 (1.27–3.32), and ICU 2.11 (1.29–3.42); (ii) for congestive heart failure, CPR 2.04 (1.18–3.54), ITN 2.45 (1.29–4.66), RRT 2.47 (1.39–4.71), and ICU 2.50 (1.31–4.76); and (iii) for malignancies, CPR 1.73 (1.20–2.51), ITN 1.74 (1.08–2.82), RRT 1.90 (1.17–3.07), and ICU 1.73 (1.06–2.81).

Age was strongly associated with the patients’ preferences for life-extending care, with older patients being more likely to decline life-sustaining interventions than younger patients. However, it has to be mentioned that it is a matter of debate whether age is an appropriate criterion by which to make decisions regarding the withholding or withdrawal of health-care interventions.¹–³ It has been shown that physicians tend to underestimate older patients’ preferences for life-sustaining procedures and their quality of life.¹ ¹⁴

It has been shown previously that the presence of advanced malignancies is associated with refusal of ICU treatment.⁵ Of note, an analysis in European ICUs comparing outcome in patients with malignancies and in non-cancer patients demonstrated worse outcome of patients with haematological neoplasms but similar outcome of patients with solid cancer when compared with ICU patients without malignancy.⁵

There are no standardized instruments for the assessment of a patient’s treatment preferences regarding life-sustaining medical care. As a major limitation of our study, we want to mention that we did not systematically test our standardized questionnaire with regard to reliability and validity.

Considering the results of our study, we think that it is mandatory to assess treatment preferences of hospitalized patients systematically in order to be able to provide the desired level of critical care in the event of an emergency or deterioration of the patient’s underlying disease. As it has been shown that most patients treated in the ICU lack decision-making capacity when end-of-life decisions need to be made,⁶ we suggest that treatment options and the patients’ treatment preferences should be discussed routinely at the time of hospital admission.

Declaration of interest
None declared.
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 not successful in finding the missing tooth. The patient at this stage was clinically stable without any respiratory symptoms. To exclude accidental inhalation of the tooth in this patient, a chest X-ray was requested. The chest X-ray revealed the presence of the lost tooth in the right bronchus. Given that the DGH had very limited facilities, the decision was made to transfer the patient to a speciality centre under the care of a thoracic surgeon. The patient was electively intubated and transferred by ambulance to the specialist hospital. At the specialist hospital, attempts at extricating the tooth from the bronchus were unsuccessful because the tooth had moved further down and impacted itself. The patient was therefore transferred back to the ITU in the DGH for further care. At the DGH, a respiratory physician managed to remove the tooth from the bronchus using a flexible bronchoscope. The patient subsequently made a full recovery from sepsis and was discharged to the ward.

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 aspirated 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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