respiration, and no patient experienced oxygen desaturation to < 92%. Adequate light sedation before awake insertion of the ILMA was achieved with total midazolam and fentanyl doses ranging from 3 to 6 [mean 4.4 (0.8)] and 0.1 to 0.3 [mean 0.16 (0.6)] mg, respectively. No patient recalled experiencing discomfort during the procedure when questioned after operation.

We obtained good results with awake insertion of a size 3.5 air-Q™ ILMA device followed by tracheal intubation using the device as a conduit in morbidly obese patients (n=20) undergoing bariatric surgery. This ILMA device is designed for easier insertion. It has a curvature approximate to that of the upper oropharyngeal airway and a wider (anterior–posterior diameter=15 mm) and shorter airway conduit than previous models. It has an easily removable airway adapter with no grill in the ventilating orifice, which may further facilitate insertion and placement (Fig. 1C).

In conclusion, the technique we describe may be a viable alternative to mask ventilation and direct laryngoscopy for safe airway management in morbidly obese patients. Further studies and detailed comparison with results of other techniques may be warranted.

Declaration of interest
None declared.

T. Shiraishi*
Tokyo, Japan
E-mail: shiraishi@mcube.jp

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Bradycardia after dexamethasone for postoperative nausea and vomiting prophylaxis during induction of anaesthesia

Editor—We report a case of sinus bradycardia after a single dose of i.v. dexamethasone for postoperative nausea and vomiting (PONV) prophylaxis during anaesthesia induction.

A 51-yr-old woman, ASA II, undergoing elective spine surgery due to a protruding intervertebral disk was brought to the anaesthesia induction room. She had mild arterial hypertension and non-active rheumatoid arthritis for which she received no therapy. She reported allergies to nickel and formaldehyde. Her BMI was 35 and she was a non-smoker with a history of PONV after disectomy in the past. Monitoring of the patient included ECG, non-invasive arterial pressure, and pulse oximetry. Her vital signs were: heart rate 80 – 85 beats min⁻¹, arterial pressure 170/90 mm Hg, $\text{SaO}_2$ 95% on breathing room air. An i.v. line was inserted and infusion with Ringer’s lactate 500 ml was initiated.

Owing to the high risk of PONV, a prophylactic dose of i.v. dexamethasone 4 mg was given at anaesthesia induction. One minute later, the patient’s heart rate decreased to 40 beats min⁻¹ and she felt drowsy. No dose of benzodiazepine or opioid had been given at this point. I.V. atropine 0.5 mg resulted in no change in heart rate. A second dose of i.v. atropine 0.5 mg was given 5 min later. The heart rate slowly increased to 80 – 85 beats min⁻¹. Anaesthesia was induced with i.v. fentanyl 0.15 mg, propofol 2 mg kg⁻¹, and rocuronium 0.6 mg kg⁻¹ and the trachea was intubated. Anaesthesia was maintained with a combination of the volatile anesthetic sevoflurane and intermittent doses of i.v. fentanyl 0.05 – 0.1 mg. No clinically relevant changes in heart rate or arterial pressure beyond the 20% range of the initial values were observed. The course of anaesthesia, operation, and the following recovery were uneventful. Echocardiography examination on the first postoperative day showed no cardiac abnormality. The patient was discharged in good general condition.

The present report might be the first case to draw attention to potentially serious side-effects of a single-dose of i.v. dexamethasone. Dexamethasone has been routinely used for prophylaxis and treatment of PONV and the quantitative systematic review of Henzi and colleagues showed that a single application did not seem to provoke any of the known side-effects of corticoids. These include cardiac arrhythmias and even sudden death. The authors of the cited review point out, however, that they ‘still do not know if a single bolus dose of dexamethasone 8 or 10 mg is safe in patients at risk of corticosteroid-related adverse effects’.

As described in the literature, most of the patients experiencing complications after i.v. application of glucocorticoids were either adults with autoimmune and rheumatic diseases or premature infants. Our patient had a history of rheumatoid disease. Furthermore, some authors suggest that high-dose methylprednisolone may be contraindicated in patients with known heart disease. There are no data confirming whether this suggestion relates to the use of dexamethasone.

The preservatives used in the drug preparation might also be a contributing factor. Our patient reported allergic reaction to formaldehyde. Although cross-reactivity between formaldehyde and preservative substances cannot be excluded, our patient showed no symptoms of anaphylactic reaction.

Undoubtedly, serious side-effects of dexamethasone are rare. Our case shows, however, that the possibility of serious side-effects after a low dose of dexamethasone still exists and that these side-effects can occur in the anaesthetic practice. Avoiding rapid bolus application in patients with known risk factors and continuous monitoring can help with timely recognition and treatment of the adverse cardiovascular side-effects that may follow after i.v. application of dexamethasone.
Declaration of interest

None declared.

M. Marinov*
M.-U. Fuesel
A. F. Unterrainer
Salzburg, Austria
*E-mail: m.marinov@salk.at

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Long-stay patients with cancer on the intensive care unit: characteristics, risk factors, and clinical outcomes

Editor—Published literature on outcomes of patients with prolonged admissions to general intensive care units (ICUs) has demonstrated increased mortality, morbidity, and resource requirements.1–6 However, studies have yet to specifically consider long-stay ICU patients with cancer. Critically ill cancer patients pose a challenge to healthcare systems, as the impact of critical care on cancer progression is largely unknown and critical illness itself often precludes aggressive cancer therapy in the ICU setting. These considerations have contributed to speculation that long-stay critically ill cancer patients may survive their ICU stay only to succumb to their cancer soon after discharge, leading some healthcare funders to question the value of prolonged ICU care in this group of patients.

The aim of this study was to determine the clinical characteristics and outcomes of long-stay ICU patients with cancer and also to identify prognostic risk factors of outcome in this group. Retrospective data on cancer diagnosis, pre-admission chemotherapy, APACHE II score, laboratory tests, organ support, and reason for ICU admission were collected on all cancer patients admitted to the Royal Marsden Hospital ICU, a tertiary referral centre for cancer in the UK, with an ICU stay > 16 days during a 6 yr period (January 2006–2012). The definition of long stay was based on 2 standard deviations from the mean length of stay in our unit.

Two hundred and three patients met the criteria for inclusion in the study. Long-stay patients accounted for 2.6% of total ICU admissions, but 24.0% of ICU budget. The most prevalent cancer diagnoses for long-stay ICU patients were haematological (65 patients; 32.0%) and upper gastrointestinal (51 patients; 25.1%) malignancies. Common reasons for ICU admission were elective surgery (88 patients; 43.3%); respiratory failure (37 patients; 18.2%), and sepsis (36 patients; 17.7%). ICU, in-hospital, and 12 month mortality for all long-stay ICU patients with cancer were 25.6% (52 patients), 32.5% (66 patients), and 48.3% (98 patients), respectively. Risk factors associated with outcome in long-stay patients were investigated using the univariate logistic and Cox proportional hazards regression. For each outcome, clinical risk factors associated with ICU, in-hospital, 12 month mortality, and time to death (P<0.05) were chosen from the corresponding univariate tests for inclusion in the multivariate model. Interestingly, age, type of cancer, disease status, and APACHE II score on admission were not found to be significantly associated with outcome in long-stay cancer patients. For time to death after admission to ICU, respiratory failure (present vs absent, hazard ratio (HR) 2.1, 95% confidence interval (CI) 1.2–3.7, P=0.01), steroid use (present vs absent, HR 2.2, 1.4–3.4, P<0.001), and chemotherapy before ICU admission (yes vs no, HR 2.7, 1.6–4.7, P<0.001) were significantly associated with outcome.

<table>
<thead>
<tr>
<th>Variable</th>
<th>ICU mortality (OR [95% CI])</th>
<th>P-value</th>
<th>In-hospital mortality (OR [95% CI])</th>
<th>P-value</th>
<th>12-month mortality (OR [95% CI])</th>
<th>P-value</th>
<th>Time to death (HR [95% CI])</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory failure</td>
<td>1.3 (1.0–1.3)</td>
<td>0.02</td>
<td>1.2 (0.99–1.5)</td>
<td>0.06</td>
<td>1.2 (0.94–1.5)</td>
<td>0.15</td>
<td>2.1 (1.2–3.7)</td>
<td>0.01</td>
</tr>
<tr>
<td>Renal replacement</td>
<td>1.2 (1.0–1.3)</td>
<td>0.03</td>
<td>1.2 (1.1–1.4)</td>
<td>0.002</td>
<td>1.1 (0.97–1.3)</td>
<td>0.13</td>
<td>1.3 (0.82–1.9)</td>
<td>0.3</td>
</tr>
<tr>
<td>Steroids</td>
<td>1.4 (1.2–1.6)</td>
<td>&lt;0.001</td>
<td>1.4 (1.3–1.7)</td>
<td>&lt;0.001</td>
<td>1.4 (1.2–1.6)</td>
<td>&lt;0.001</td>
<td>2.2 (1.4–3.4)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Chemotherapy</td>
<td>1.3 (1.0–1.5)</td>
<td>0.02</td>
<td>1.3 (1.1–1.6)</td>
<td>0.003</td>
<td>1.5 (1.2–1.9)</td>
<td>&lt;0.001</td>
<td>2.7 (1.6–4.7)</td>
<td>&lt;0.001</td>
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