

This section is designed to test your knowledge of selected topics in this issue of the journal. The correct answers are given at the foot of the page.

# Self-assessment

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## SINGLE BEST ANSWER

- 1** A young and anxious mother brings a 4-month-old full term baby complaining of noisy breathing, which is worse during feeding or lying supine. The baby is maintaining appropriate weight for age on the growth chart. On examination there is a mild inspiratory stridor. The rest of the bedside examination is normal. Which of the following is true about the management of this child?
- A.  The baby should be intubated for airway protection
  - B.  Reassure the mother saying that it should ideally resolve as the baby grows
  - C.  Prophylactic antibiotics should be administered
  - D.  This child might need steroids and hence should be admitted to the ward
  - E.  Heliox is highly beneficial in reducing the work of breathing
- 2** A 75-year-old male is admitted to ICU with severe community acquired pneumonia. There is history of diabetes and chronic alcoholism. He has been on the ICU for about 3 weeks and needs ventilator support via tracheostomy. His weaning has been complicated by spiking temperatures, raised white cell counts and bilateral chest X-ray changes and his oxygen requirements have gone up. Which of the following treatment measures would probably improve his outcome?
- A.  Antibiotics administered after positive blood cultures
  - B.  Selective decontamination of the digestive tract (SDD) would have prevented this infection
  - C.  Using a silver coated endotracheal tube would improve the overall outcome
  - D.  Probiotics may be administered via nasogastric tube
  - E.  The patient should be nursed in a semi-recumbent position

## MULTIPLE CHOICE QUESTIONS

### 3 Consent and children

Which of the following are true regarding the issues around consent for a 16-year-old and parental responsibility?

- A.  The child can consent to act as a living solid organ donor in England, Wales and Northern Ireland
- B.  The child cannot complete an Advance Healthcare Directive
- C.  If the child has learning difficulties it should be considered automatically to lack capacity
- D.  The biological mother cannot have the parental responsibility if the child is not under her care
- E.  The biological father is not automatically a person with parental responsibility

### 4 Sepsis in 2018

Which of the following interventions are associated with improved outcomes in the management of sepsis?

- A.  Combination therapy of antibiotics in septic shock
- B.  Adrenaline as the first-line agent to treat hypotension resistant to fluid therapy
- C.  Serum lactate guided resuscitation
- D.  Dynamic assessments and reassessments of perfusion
- E.  Normal saline as the fluid of choice for initial fluid resuscitation

### 5 Update on ENT anaesthesia in children

Which of the following features would recommend a high dependency unit admission in children with obstructive sleep apnoea (OSA) undergoing adenotonsillectomy?

- A.  Age younger than 3 years
- B.  Cardiac disease
- C.  Oxygen saturation <90% on room air in the post anaesthetic recovery unit
- D.  Prematurity
- E.  Significant comorbidity

## ANSWERS

- 1. Correct answer: B.** Laryngomalacia is the most common cause of stridor in the newborn. The stridor is caused by turbulent airflow through the area of obstruction and is more noticeable when supine or during feeding, agitation or crying. Symptoms begin within the first 4–6 weeks of life and typically resolve by 24 months. Diagnosis is confirmed by flexible endoscopy with visualisation of supraglottic tissue collapsing into the airway and causing obstruction during inspiration. Characteristic abnormalities include elongation and lateral extension of the epiglottis, redundant bulky arytenoids and shortening of the aryepiglottic folds. There are varied combinations of abnormalities in each individual patient resulting in a wide spectrum of disease. Most infants will have mild symptoms and are managed conservatively with the expectation that symptoms improve with growth. Positive pressure ventilation can be helpful in more symptomatic children and surgery is reserved for those who are failing to thrive, as evidenced by falling growth centiles. Helium has low viscosity and will improve flow through an orifice. However, a change from  $\text{FiO}_2$  of 1 to  $\text{FiO}_2$  of 0.3 in helium only increases flow by 50% so it is not always beneficial.
  - 2. Correct Answer: E.** Mechanically ventilated patients are at the highest risk of ventilator associated pneumonia (VAP). Risk factors include age 70 years or greater, those with existing lung disease, neurological injury and reduced level of consciousness, and clinical evidence of aspiration. The diagnosis of VAP is currently based on clinical, radiological and microbiological criteria. Methods to prevent microaspiration of microbes improve outcomes. Firstly, placing the patient in a semi-recumbent position reduces VAP incidence when compared to nursing the patient supine. The use of endotracheal tubes that allow aspiration of subglottic secretions reduces VAP occurrence as well. Finally, silver-coated tubes prevent the transmission of oropharyngeal flora to the distal lung. These endotracheal tubes are associated with a 48% relative risk reduction of VAP, but so far have demonstrated no difference in patient-centred outcomes. Several small studies have evaluated the use of probiotics via the nasogastric or oropharyngeal route but all have been underpowered to evaluate changes in patient outcomes. Multiple studies have demonstrated that selective decontamination of the digestive tract (SDD) reduces the incidence of VAP. Most SDD regimens involve the topical application of antimicrobial agents (e.g. tobramycin, amphotericin B) in the oropharynx and via the nasogastric tube. However, the adoption of this technique has been limited, especially in the UK, due to concerns about an increase in rates of antibiotic resistance. Chlorhexidine oral care is routinely used as a similar preventative method. However, recent studies have questioned its safety. The key to optimal management of nosocomial infection is timely diagnosis with a focus on use of targeted antimicrobial therapies. One of the most useful tests performed in the ICU is a correctly performed blood culture. Currently, only around one-third of patients displaying signs of sepsis show positive blood cultures.
  - 3. Correct answers: B, E**
  - 4. Correct Answers: A, C, D**
  - 5. Correct answers: C, E**
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