

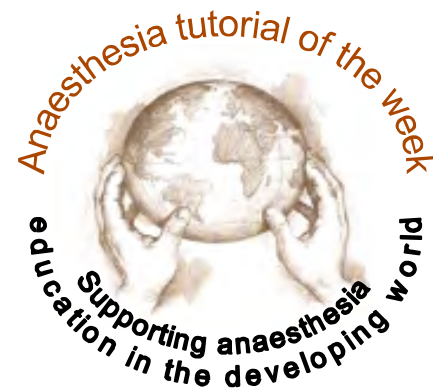
TUTORIAL OF THE WEEK MULTIPLE CHOICE QUIZ

ANAESTHESIA TUTORIAL OF THE WEEK 140

29TH June 2009

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Test your knowledge from the following tutorials:

<u>Category</u>	<u>Title</u>
General Anaesthesia	Pulse oximetry
	Neuromuscular disorders and Anaesthesia
	Diabetic ketoacidosis
	Malignant hyperthermia
	Ophthalmic anaesthesia
Obstetric Anaesthesia	Lessons learned from the Confidential Enquiry for Maternal And Child Health
Paediatric Anaesthesia	Preparation of Children for surgery
	Paediatric Head Injury
Basic Sciences	Right heart physiology
Intensive Care	Activated Protein C in Sepsis
Regional anaesthesia	Peripheral nerve blocks: Getting started

There are 25 questions with 4 parts:

Answer each part with either T (TRUE) or F (FALSE) on the excel answer sheet, then save the file and email it to fleur_roberts@hotmail.com with your name, institution and country.

ONLY THOSE ANSWERS ON THE OFFICIAL ANSWER SHEET WILL BE MARKED!

The entry with the highest score from a developing country by the deadline date will be eligible for a complimentary copy of the Oxford Handbook of Anaesthesia!!

QUESTIONS

1. The following can be causes of hypoxia perioperatively:
 - a. aspiration of gastric contents
 - b. a spinal block height to T10
 - c. inadequate reversal of muscle relaxants
 - d. obstruction of breathing circuit

2. If a patient undergoing anaesthesia desaturates suddenly and loses the end tidal carbon dioxide trace the following could be the cause:
 - a. Severe laryngospasm
 - b. An air embolus
 - c. Breathing circuit disconnection
 - d. Tracheal tube obstruction

3. A patient with Duchene's muscular dystrophy undergoing anaesthesia for a procedure on a lower limb :
 - a. Is susceptible to both hypothermia and hyperthermia
 - b. Is best managed with a relaxant , volatile general anaesthetic
 - c. cardiac arrhythmias are unlikely to occur if using isoflurane
 - d. a higher dose of non depolarizing muscle relaxant is required

4. Myotonic dystrophy patients :
 - a. Are at risk of developing rhabdomyolysis and life threatening hypokalaemia if suxamethonium is used
 - b. Are susceptible to myotonic reactions triggered by neostigmine
 - c. Can develop masseter spasm which always heralds impending malignant hyperthermia
 - d. Can develop severe hypotension under regional anaesthesia due to autonomic dysfunction

5. Diabetic ketoacidosis is a medical emergency and is defined by:
 - a. hyperglycaemia with a blood glucose of > 14 mmol/L
 - b. acidosis with a pH of < 7.3 and a serum bicarbonate of < 18 mmol/l
 - c. dehydration and hyperosmolar state
 - d. ketonuria and an osmotic diuresis

6. In the management of patients with Diabetic Ketoacidosis:
 - a. fluid resuscitation is always required along with an intravenous sliding scale insulin infusion
 - b. kussmaul's respiration can indicate severe alkalosis
 - c. electrolyte disturbances such as hypokalaemia, hyperkalaemia and hyponatraemia must be monitored and corrected
 - d. cerebral oedema is not at risk of occurring if the hyperglycaemia is corrected rapidly or if sodium bicarbonate is given to correct severe acidosis

7. With regard to the right side of the heart:
 - a. the blood supply comes from the right coronary artery, circumflex artery and the left coronary artery
 - b. abnormalities such as an atrioventricular septal defect cause a left to right shunt which can lead to pulmonary hypertension
 - c. when a ventricular septal defect causes a loud audible murmur the size of the defect is large and so is the left to right shunt
 - d. Eisenmenger's syndrome occurs when the PVR is $>$ SVR so right to left shunting occurs with severe pulmonary hypertension

8. Causes of right ventricular failure include:
 - e. massive pulmonary embolus
 - f. left ventricular failure
 - g. mitral stenosis
 - h. pulmonary stenosis

9. Fasting guidelines for paediatric patients are as follows:
 - a. solid food 4 hours
 - b. formula milk 2 hours
 - c. breast milk 2 hours
 - d. clear fluids 3 – 4 hours

10. When examining a child and a heart murmur is found what suggests it is pathological?
 - a. pansystolic or continuous
 - b. poor weight gain
 - c. recurrent chest infections
 - d. cyanotic episodes

11. When assessing a sick child the following clinical signs are of concern:
 - a. tachypnoea with associated accessory muscle use
 - b. tachycardia and hypotension
 - c. bradycardia
 - d. altered conscious level

12. Complications associated with performing any peripheral nerve block include:
 - a. intra neural injection resulting in temporary or permanent numbness
 - b. intravascular injection resulting in side effects such as perioral tingling, confusion or even fits
 - c. block failure or incomplete block
 - d. damage to numb limb

13. The maximum recommended doses of local anaesthetics in mg/kg doses are as follows:
 - a. Lignocaine with adrenaline = 6
 - b. Bupivacaine with adrenaline = 4
 - c. Prilocaine = 6
 - d. Ropivacaine = 2

14. Signs of local anaesthetic toxicity never include:
 - a. bradycardia
 - b. dizziness and visual disturbance
 - c. muscle twitching
 - d. coma

15. In the Baskett's classification of hypovolaemic shock:
 - a. class III leads to systolic and diastolic hypotension
 - b. class IV leads to tachycardia of >120
 - c. class II leads to tachypnoea (RR > 20)
 - d. class I occurs when 15% - 30% total blood volume is lost

16. With regards to blood products for transfusion:
 - a. packed red cells have had 150ml of citrated plasma removed from a unit of whole blood
 - b. platelets have a shelf life of 3 – 5 days
 - c. fresh frozen plasma requires thawing prior to use and lasts for one year whilst frozen
 - d. cryoprecipitate is transfused when the fibrinogen levels are < 1.0 g/l

17. After a child sustains a severe head injury through trauma secondary brain injury can occur due to:
 - a. hypothermia
 - b. hypoglycaemia
 - c. hypotension
 - d. hypoxia

18. Children with traumatic brain injury can have fluid and electrolyte disturbances such as:
 - a. hypernatraemia secondary to inappropriate antidiuretic hormone production
 - b. hyponatraemia, high urinary osmolality, hypovolaemia and hypotension due to cerebral salt wasting
 - c. hypernatraemia, high plasma osmolality, low urinary osmolality, hypovolaemia and hypotension due to diabetes insipidus
 - d. hyponatraemia from diabetes insipidus which corrects with DDAVP (desmopressin)

19. Clinical indications for performing a CT scan of a child's head after a head injury include:
 - a. suspicion of non accidental injury
 - b. depressed skull fracture
 - c. seizures
 - d. high speed motor vehicle accident passenger

20. Obstetric deaths related to obesity occur as this group of patients as they are more at risk of having:
 - a. Thromboembolic disease
 - b. cardiac disease
 - c. sepsis
 - d. failed intubation

21. With regard to malignant hyperthermia:
- it is an autosomal recessive condition
 - it is linked to a mutation in chromosome 19 for the ryanodine receptor
 - patients are not at risk if they have had previous uneventful anaesthesia
 - it is characterized by hypermetabolism, muscle spasm and injury causing metabolic alkalosis and hypokalaemia
22. Severe sepsis :
- has a mortality of 30 – 50%
 - occurs when a systemic inflammatory response is triggered secondary to an infection and results in organ failure
 - results in activation of the coagulation cascade, systemic vasoconstriction and increased capillary permeability
 - is associated with the release of high levels of inflammatory mediators such as tumour necrosis factor and interleukin 1 and 6
23. Treatment of severe sepsis involves:
- treatment with appropriate antibiotics as soon as the diagnosis has been established
 - surgery to remove sources of infection
 - intubation and ventilation where respiratory failure has occurred
 - the use of activated protein C in children
24. When considering the nerve supply to the eye:
- the abducens nerve supplies the medial rectus muscle
 - the trochlear nerve supplies the superior oblique muscle
 - the oculomotor nerve supplies the superior oblique, medial rectus and inferior oblique
 - the ophthalmic division of the trigeminal nerve supplies motor to the orbicularis oculi
25. In performing paediatric strabismus surgery under general anaesthetic the following can occur:
- bradycardia or sinus arrest secondary to the oculocardiac reflex arc triggered by traction on the extraocular muscles
 - respiratory arrest secondary to the oculo respiratory reflex
 - vomiting in 60 – 90% of patients from triggering the trigeminovagal reflex
 - hypocarbica secondary to hyperventilation by triggering the oculo-respiratory reflex

Well done for completing the TOTW quiz

Closing date for entries - July 31st 2009

Thank you very much