



Cert Pulmonology(SA) Paed

## THE COLLEGES OF MEDICINE OF SOUTH AFRICA

Incorporated Association not for gain  
Reg No 1955/000003/08

### Examination for the Subspecialty Certificate in Pulmonology of the College of Paediatricians of South Africa

Paper 1

27 July 2017

(3 hours)

*All questions to be answered. Each question to be answered in a separate book (or books if more than one is required for the one answer)*

---

- 1 An 8-year-old boy is referred to your tertiary hospital from a rural district hospital with the following symptoms
- A 3 weeks' history of cough productive of sputum mixed with blood.
  - Loss of weight.
  - General malaise.
  - Fever.
- They had performed some special investigations including a chest x-ray which showed a unilateral round opacification in the right upper lobe. It was a homogeneous dense soft tissue mass lesion 2X3cm in size. They had treated the child with first line antibiotics for 2 days with no improvement
- a) What is your differential diagnosis? (4)
  - b) What other further investigations will you do? (4)
  - c) A chest CT scan reveals a mass with an 'onion peel' sign in the upper lobe. Serology for *Echinococcus granulosus* by indirect haemagglutination is 1:1024. What is your definite diagnosis? (2)
  - d) Discuss your medical and surgical management of the patient. (15)
- [25]
- 2 Cilia in the respiratory tract play an important role; amongst other functions they help with clearance of mucus
- a) Discuss and illustrate by means of a diagram a normal transverse section of respiratory cilia. (10)
  - b) Write a brief discussion of recognised defects of respiratory cilia in primary ciliary dyskinesia (PCD). (5)
  - c) Discuss the diagnosis of a patient with PCD. (10)
- [25]

- 3 An 18-month-old boy is brought to you by his mother with a complaint that he started wheezing and having fast breathing last night. On careful enquiry his mom declares that this is the third similar episode
- a) Discuss the differential diagnosis of this condition. (10)
  - b) Discuss your immediate diagnostic approach. (5)
  - c) Discuss your long-term management strategy including further testing that should be done. (10)
- [25]
- 4 An 8-month-old male presents with an incidental finding of a single large thin-walled cystic lesion in the left hemithorax on chest radiograph, following admission for elective surgery for an inguinal hernia repair. He is well grown and otherwise clinically stable
- a) List the differential diagnosis for the cystic lesion. (5)
  - b) Tabulate the PROS and CONS of opting for surgical removal of the cyst in this patient. (10)
  - c) Tabulate the differences between extra-lobar and intra-lobar pulmonary sequestration. (10)
- [25]



Cert Pulmonology(SA) Paed

## THE COLLEGES OF MEDICINE OF SOUTH AFRICA

Incorporated Association not for gain  
Reg No 1955/000003/08

### Examination for the Subspecialty Certificate in Pulmonology of the College of Paediatricians of South Africa

Paper 2

28 July 2017

(3 hours)

*All questions to be answered. Each question to be answered in a separate book (or books if more than one is required for the one answer)*

- 1 A mother brings her 6-months-old infant to your practice with signs of respiratory distress. On examination you hear wheezes and a few crackles. You make a diagnosis of bronchiolitis
  - a) Discuss the difference between CPAP and high flow as therapeutic options. (4)
  - b) The child is hypoxic and cyanosed. You admit him in hospital and put him on oxygen by non-invasive nasal continuous positive airway pressure (nCPAP). The child does not improve despite this treatment. You do an arterial blood gas which shows the following  
 PH: 7.2.  
 PO<sub>2</sub>: 45mmHg.  
 PCO<sub>2</sub>: 65mmHg.  
 Oxygen saturations: 70%.  
 The other parameters are relatively normal. Interpret the results of the arterial blood gas. (1)
  - c) You decide to intubate and mechanically ventilate the child. Give a brief discussion of lung protective strategies that you will use to ventilate the child and indicate the advantage(s) of such strategies. (5)

[10]
  
- 2 A GP refers a 6-year-old girl with chronic cough, recurrent pneumonia, severe eczema and skin abscesses. You suspect that the child might have Hyper IgE syndrome (HIES). Briefly discuss
  - a) Diagnostic criteria for this syndrome. (5)
  - b) Management of HIES. (5)

[10]
  
- 3 Despite the fact that South Africa has a relatively strong economy in Africa, we still have a high incidence of tuberculosis (TB) and HIV/AIDS. TB management remains a challenge. Write brief notes on the following
  - a) Management of BCG TB. (5)
  - b) Management of a child of a mother suspected to have multidrug resistant tuberculosis (MDR). (5)

[10]

- 4 In our management of children for various diseases such as infections, hypertension, arthritis and malignances we may use chemotherapeutic agents and radiation therapy that may lead to therapy-induced pulmonary disease
- a) List such therapies associated with airway disease. (5)
  - b) Give a brief discussion of an evaluation of suspected therapy-induced pulmonary disease. (5)
- [10]
- 5 Discuss the embryology of the lungs with specific reference to the development of a bronchogenic cyst. [10]
- 6
- a) Discuss the role of combination (inhaled corticosteroids and long-acting beta agonists) in the management of childhood asthma. (5)
  - b) Discuss the merits of the various long-acting beta agonists available for management of paediatric asthma. Make use of a table to compare and contrast these attributes. (5)
- [10]
- 7 Discuss the idea of the microbiome of the respiratory tract in health and disease. [10]
- 8 Some childhood interstitial lung diseases have been associated with specific genetic mutations. Discuss. [10]
- 9 Write short notes on laryngeal cleft under the following headings
- a) Classification.
  - b) When to suspect the diagnosis.
  - c) Diagnosis.
  - d) Management according to classification. [10]
- 10 In the world each year, more than 200 million acute malaria episodes occur, and over 400 000 people, mainly in sub-Saharan Africa, die because of malaria
- a) Discuss pulmonary manifestations of malaria. (5)
  - b) Discuss the management of pulmonary complications of malaria. (5)
- [10]