



## THE COLLEGES OF MEDICINE OF SOUTH AFRICA

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

### Examination for the Subspecialty Certificate in Infectious Diseases of the College of Physicians of South Africa

19 August 2010

1 Paper Only

(3 hours)

*All questions are 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) Discuss the clinical manifestations of HHV-8 infection and their treatment. (10)
  - b) Using examples, discuss the pathogenesis of HHV-8 infection. (5)[25]
  
- 2 Critically review the rationale and evidence for using corticosteroids as adjunctive therapy in adults with acute bacterial meningitis. [10]
  
- 3 A general physician consults you on the management of a 43-year-old senior civil servant who has been hospitalised with a one week history of cough, fever, pleuritic chest pain and dyspnoea. The patient was diagnosed with smear positive pulmonary tuberculosis six weeks ago and was commenced on four drug combination anti-tuberculosis treatment. Two weeks later, based on HIV sero-positivity and CD4 count of 55cells/ $\mu$ L the patient was commenced on first line anti-retroviral treatment. Your colleague diagnosed immune constitution inflammatory syndrome based on a new left pleural effusion on a chest radiograph. He prescribed oral prednisone and raised the concern of multi-drug resistant tuberculosis (MDR TB) with hospital management
  - a) Detail the advice you would give to your colleague, the hospital management, and the patient's family.
  - b) Your advice is followed, but one week later the patient remains febrile (daily maximum temperature  $>38.2^{\circ}\text{C}$ ) and increasingly ill. How would you proceed? [10]
  
- 4 A 30-year-old HIV infected woman has been on highly active anti-retroviral treatment (stavudine, lamivudine, nevirapine) for the last 16 months with good clinical response. She presents with general weakness, nausea, vomiting and abdominal pain for the last week. Clinical examination revealed deep jaundice and a 3cm mildly tender hepatomegaly. There were no signs of chronic liver disease, ascites or an enlarged spleen. All other systems were grossly normal  
**Abdominal ultrasound:** normal study  
Baseline: viral load was 530 000cpm; CD4 105cells/ $\mu$ L; ALT 27U/L; creatinine 80 $\mu$ mol/L; RPR was non-reactive; HBsAg was positive.  
At 12 months: viral load was  $<50$ cpm; CD4 280cells/ $\mu$ L; ALT 62U/L  
Relevant blood results include at time of presentation:

LFT:	FBC:	U&E	Hepatitis studies
tBR 120	WCC 7.0	K 4.1	HAV negative
cBR 94	Hb 11.0	Na 135	HCV negative
ALP 197	MCV 98.0	Ur 6.5	
GGT 432	Plt 210	Cr 72	HBsAg positive
AST 2075			Anti HBc positive
ALT 2580			HBsAb negative
LDH 870			HBeAg negative
			Anti HBe positive
	Lactate 6.5		Anti HBc IgG positive

With the information to your disposal, discuss the differential diagnosis and indicate your most likely diagnosis. [10]

- 5 A 43-year-old HIV positive man is planning a tour around the world and needs advice on taking the following vaccines
  - a) Yellow fever.
  - b) Intra nasal Influenza.
  - c) MMR. [10]
  
- 6 A 60-year-old sheep farmer living in the Free State Province presents with a history of fever, myalgia and headache. Four-days after the onset of illness he develops epistaxis and is admitted to hospital. Apart from a temperature of 38.5°C, evidence of bleeding from venepuncture sites and the absence of a rash the examination did not reveal anything of note. Blood results: Hb 12gm/L WCC  $2.8 \times 10^9$ cells/L, platelets  $23000 \times 10^9$ /L, ALT 900U/L, AST 1000 U/L
  - a) Discuss a differential diagnosis.
  - b) What additional questions on history would be pertinent?
  - c) What additional laboratory tests should be requested?
  - d) Discuss management of this patient on admission to hospital in terms of antimicrobials, infection control measures and any public health response. [15]
  
- 7 Over a 5-day period, in a neonatal ICU, sixteen infants develop severe watery diarrhoea. Six infants subsequently develop fatal necrotising enterocolitis. An ESBL-producing *Klebsiella pneumoniae* is isolated from the bloodstream of 2 of the 6 infants. You are called in to conduct an investigation of the outbreak and provide infection control and prevention advice to the neonatal ICU
  - a) Discuss step-by-step, with appropriate examples, your approach to fully investigate this outbreak.
  - b) Describe the steps you will take to contain this outbreak from infection control and prevention perspective. (15)
  
- 8 Write short notes on the the following issues regarding treatment of methicillin resistant *Staphylococcus aureus* (MRSA) infections
  - a) Discuss the dosing and monitoring of vancomycin.
  - b) How would you manage meningitis due to MRSA? Justify your answer.
  - c) Discuss the options for treating serious MRSA infections if intolerance develops to vancomycin. (15)