



## THE COLLEGES OF MEDICINE OF SOUTH AFRICA

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

Examination for the Subspeciality Certificate in Medical Oncology of the  
College of Paediatricians of South Africa

27 July 2017

Paper 1

(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)*

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- 1 SM is a 15-year-old girl who presents with a 5 month history of pain in the left hip. On history taking and examination, she is alert, well-orientated and gives a detailed description of seeking medical attention on numerous occasions. Imaging of her pelvis reveals a large ill-defined mass in the left pelvis with bony erosions of the sacrum
- How would you proceed to investigate SM to make a diagnosis?
  - What is your differential diagnosis?
  - One of the tests is positive for the EWSR1 gene. What are the other genetic markers which may be positive in this malignant disease?
  - Which immunophenotypic markers would you ask your pathologist to comment on?
  - Write notes on the pathophysiology of this disease process.
  - How would you manage this young girl?
  - What are the complications of treatment?
  - What are the prognostic factors of this condition? [100]
- 2 AT is a 9-year-old boy who presented to the out-patient clinic with epistaxis for 2 days. His mother reported he was previously well, enjoyed playing football and was a happy boy. On examination he was noted to have dried blood around both nostrils, bleeding from his gums and numerous petechiae and ecchymoses on all limbs and on his anterior chest and abdominal walls. On further examination he was found to be pale, tachycardic, to have a hepatomegaly of 6cm below the right costal margin and a large splenomegaly. A full blood count revealed a Hb of 4mg/dl, a white cell count of  $51 \times 10^9/l$  and a platelet count of 10. Of note he had a promyelocyte count of 48%
- What is the most likely diagnosis?
  - Explain how you would further investigate this young boy.
  - What cytogenetic or FISH results would be important to request in this patient?
  - Describe the pathogenesis of the underlying malignant disease.
  - Describe the pathogenesis of bleeding in this patient.
  - What would your immediate management be and what life-threatening complications would you address? How?
  - How would you manage this patient?
  - Write notes on ATRA neurotoxicity and how you would manage it.
  - What is differentiation syndrome/retinoic acid syndrome?
  - How would you manage differentiation syndrome/retinoic acid syndrome? [100]

- 3 You are treating an 11-year-old girl with Gastro-intestinal Kaposi Sarcoma. She has only recently been diagnosed with HIV. She is losing weight because of persistent vomiting
- a) How does co-infection with HIV influence childhood cancer in South Africa? (50)
  - b) Explain the management of a child newly diagnosed with Kaposi Sarcoma. (25)
  - c) Write short notes on Chemotherapy Induced Nausea and Vomiting (CINV). (25)
- [100]
- 4 A 3-year-old girl presents to you with a large mass in her calf area. An FNA done at the peripheral hospital revealed a small round cell tumour
- a) What is the differential diagnosis and how will you confirm the diagnosis? (25)
  - b) How do you plan to get local control of the tumour? Describe all the factors you will consider. (50)
  - c) The tumour is a Rhabdomyosarcoma. How will you investigate the patient further and assign to risk groups? (12)
  - d) What is Metronomic Therapy and give examples of drugs/regimens of Metronomic therapy that can be used to treat children with Rhabdomyosarcomas. (13)
- [100]



Cert Medical Oncology(SA) Paed

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Paper 2

(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)*

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- 1 Discuss the chemotherapeutic agent etoposide with regards to
  - a) Mode of action.
  - b) Methods of administration.
  - c) Indications for use.
  - d) Long term side effects. [10]
- 2 Vaccination guidelines in children with cancer. [10]
- 3 Discuss ocular salvage treatments available in the management of retinoblastoma. [10]
- 4 Discuss the clinical problem of carbapenem-resistant enterobacteriaceae (cre) infections in the paediatric oncology unit and your approach to the management thereof. [10]
- 5 Discuss the indication for haematopoietic stem cell transplant with reference to donor type and availability. [10]
- 6 What is a PET scan and discuss its usefulness in paediatric cancers? [10]
- 7 Explain the correlation between cytogenetic abnormalities and prognosis in children with B cell ALL. [10]
- 8 Write short notes on Atypical Teratoid/Rhabdoid Tumours (ATRT) in children. [10]
- 9 Write notes on BRAF mutations in paediatric brain tumours. [10]
- 10 Write notes on CNS directed therapy in children with ALL. [10]