Cert Medical Oncology(SA) Paed

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 February 2020

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)

---

1 Thomas is a 10-year-old boy that presents with fever and easy bruising. The clinical examination is unremarkable except for lymphadenopathy, petechiae, and hepatosplenomegaly. His white cell count is 138 x 10^{9}/L, blasts are seen on the peripheral smear. A bone marrow examination confirms the diagnosis of an early T-cell precursor (ETP) acute lymphoblastic leukaemia (ALL). He commences chemotherapy and his peripheral blood blast count after a week of corticosteroid treatment is 3472/mm^3 (25%).

a) Discuss the prognostic factors that influence risk stratification in patients with ALL and explain why risk stratification is important. (12)

b) Discuss the components of treatment of paediatric ALL and explain the rationale for each component. (10)

c) Will you consider Nelarabine as an adjunct to Thomas' treatment? Motivate your answer. (3)

[25]

2 A 7-year-old child presents with night sweats, loss of weight and pyrexia. Your clinical examination reveals that he has cervical lymph nodes that are pathological. Histology confirms the diagnosis of Hodgkin's lymphoma. Discuss Hodgkin's lymphoma under the following headings:

a) Histological subtypes and the relevance of the different types. (10)

b) Discuss the staging of Hodgkin's lymphoma. (15)

[25]

3 An 18-month-old boy presents with a white pupil and mild proptosis that the mother noted about a month ago. There are no other complaints and family history is normal. Clinical examination reveals the mild proptosis and the leukocoria. You order a CT scan to evaluate the orbit.

a) What features would you look for on the CT if there were a malignancy in the orbit? (4)

b) The CT confirms your suspicion that it might be a retinoblastoma. You send the child for evaluation by the local ophthalmologist. What do you expect him to do initially? (2)

c) An enucleation is performed and the child is sent back to you with the diagnosis confirmed on histology. Which staging investigations do you perform? (2)

PTO/Page 2 Question 3d)…

d) There are no signs of distant spread and the tumour is fully removed. Discuss treatment options of retinoblastoma under the following headings:
   i) Surgical management. (2)
   ii) Local treatment. (4)
   iii) Chemotherapy options. (4)
   iv) Radiotherapy options. (2)

e) If this child's tumour is resected and is staged, what treatments would you apply?
   i) N0C0.
   ii) N1C2S0.
   iii) Optic nerve infiltrated to surgical margin. (3)

f) What is the relevance of the family history? (2)

[25]

4 Oncogenesis is a complex multi-step process with abnormal cell proliferation at its core. Discuss the role of the following factors in inducing or sustaining malignancy and give two examples with answers (a.) and (b.)

a) Proto-oncogenes. (6)

b) Tumour suppressor genes. (6)

c) Discuss angiogenesis in the context of tumorigenesis and explain the role of vascular endothelial growth factor (VEGF)-inhibitors as a form of targeted therapy. Motivate your answer with examples from clinical practice. (13)

[25]

Cert Medical Oncology(SA) Paed

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

28 February 2020

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)

1 Define metronomic chemotherapy and write short notes on its mechanism of action and how it differs from conventional chemotherapy. Provide 2 (two) examples with your answer. [10]

2 Define the "posterior fossa syndrome" and write short notes on the clinical features, risk factors and management thereof. [10]

3 List the early complications that can occur following an allogeneic bone marrow transplant. [10]

4 Discuss the pathophysiology of anthracycline-induced cardiotoxicity and possible cardioprotective strategies. [10]

5 Discuss the precautions in administration and side effects of Vincristine. [10]

6 Discuss the clinical features and treatment of Rosai Dorfman disease. [10]

7 Write short notes on brentuximab. Describe:
a) Mechanism of action.
b) Indications.
c) Major side effects. [10]

8 Discuss the difference between consent and assent in the context of giving a 10-year-old child an experimental agent for refractory Burkitt Lymphoma. [10]

9 Transfusion reaction are a rare and under reported phenomenon, describe the clinical signs of transfusion reactions that may occur as a direct result of blood product transfusions and the management. [10]

10 a) Discuss the use of Peptide Receptor radio nucleotide therapy in children.(PRRT) (5)
b) Discuss the precautions one needs to take when administering these radioactive Isotopes to children. (5)
[10]