



THE COLLEGES OF MEDICINE OF SOUTH AFRICA

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

Examination for the Sub-specialty Certificate in Medical Oncology of the  
College of Physicians of South Africa



1 March 2018

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. Please write short notes on the following:

- a) Platinum co-ordination compounds: Mechanisms of action, side effects and clinical usage. (8<sup>1</sup>/<sub>3</sub>)
- b) RAS family kinases with an emphasis on the management of advanced colorectal cancer. (8<sup>1</sup>/<sub>3</sub>)
- c) Monoclonal antibodies in the treatment of cancer: Discuss mechanisms of action and give some examples of specific cellular targets in the treatment of cancer. (8<sup>1</sup>/<sub>3</sub>)

[25]

2. A 48-year-old female patient is referred to you from her GP with a clinical T2 N0 M0 left sided breast cancer. The core biopsy histology showed a Grade II duct carcinoma which is ER positive, HER2 negative and has a Ki-67 proliferation index of 23%.

- a) Describe your work up of the patient and outline your treatment plan. (5)
- b) The patient returns to you after initial surgery for review. Histology of the wide local excision with sentinel lymph node biopsy again showed a grade II duct adenocarcinoma of 33mm x 28mm with 0/3 nodes positive and clear margins. Immuno-histochemical stains showed ER 3+ positive in 66-100% of cells, PR+ positive in 10-33% of cells and HER 2 1+ with a Ki-67 proliferation index of 23%. What do you advise for adjuvant treatment in this patient? (5)
- c) The patient does well for 2 years post adjuvant therapy but then develops lower back pain. Your work up reveals bone metastasis. What is your approach to the patient's care at this point in the first line metastatic setting and on further relapse? Please mention studies that support your choice of treatment including novel unregistered drugs. (15)

[25]

3. Please write short notes of the following:

- a) The role of anti-angiogenic agents in the management of patients with ovarian cancer. (8<sup>1/3</sup>)
- b) The role of monoclonal antibodies and signal transduction inhibitors in the management of patients with high risk fully resected, as well as advanced malignant melanoma. (8<sup>1/3</sup>)
- c) The role of new generation androgen receptor blockers (ARBs) as well as cytochrome P17 (CYP17) inhibitors in patients with advanced prostate cancer. (8<sup>1/3</sup>)

[25]

4. A 65-year-old man undergoes a gastroscopy for episodic abdominal pain, weight loss and early satiety. A gastric cardiac mass is identified and biopsied and confirms an adenocarcinoma.

- a) What further work up would you do at this stage? (5)
- b) What specific additional immunological testing would you request at this stage to help in your present and future treatment decisions? (2)
- c) The tumour is staged as T3 N0 M0 on CT scan. Describe potential approaches to the initial management of this patient. (10)
- d) The patient is followed up after initial treatment and remains well in CR for 12 months. He now re-presents with abdominal pain, distention and weight loss. A CT scan reveals peritoneal metastases with ascites. Describe your approach to the management of this patient now. (8)

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2 March 2018

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. A 53-year-old male presents to his GP with a productive cough. Clinical examination suggests acute bronchitis with no other clinical abnormalities. A full blood count shows WBC  $52 \times 10^9/l$  with 90% lymphocytes, 8% neutrophils and 2% monocytes. Haemoglobin was 13.2 g/dl and platelets  $217 \times 10^9/l$

a) Discuss your diagnostic, prognostic and therapeutic approaches to this patient at this stage. (5)

The patient receives a macrolide antibiotic for 5-days and clinically settles. His WBC drops to  $29 \times 10^9/l$ . He is then followed for the next 3-years by which time his white cell count rises slowly to  $305 \times 10^9/l$ . His haemoglobin and platelet count remain normal and he does not develop any new clinical signs except for small cervical, axillary and inguinal lymphadenopathy

b) What would be your approach to this patient now? (2)

After another 2-years, his white cell count increases to  $529 \times 10^9/l$  while his haemoglobin drops to 9.6g/l and his platelets drop to  $81 \times 10^9/l$ . In addition, his lymphadenopathy is becoming uncomfortable and he is also noted to have an enlarging spleen

c) What would be your approach to this patient now? (6)

The patient responds well to his initial treatment and achieves a complete remission after 4 cycles of chemotherapy

d) What would be your approach to this patient at this stage? (2)

The patient remains well for the next 6-years and then presents with increasing lymphadenopathy and a rising WBC and lymphocyte count

e) What would be your diagnostic approach of this stage? (2)

f) Discuss available therapeutic options in this relapsing patient in the year 2018. (8)

[25]

2. a) Discuss mutations that occur in Gastrointestinal Stromal Tumours (GISTs) and their implications in the treatment of patients with this disease. (10)
- b) Briefly outline your approach to the treatment of patients with unresectable/metastatic neuroendocrine tumours. (7<sup>1</sup>/<sub>2</sub>)
- c) Discuss what advice would you give to patients who need to undergo cancer chemotherapy and have not completed their families. (7<sup>1</sup>/<sub>2</sub>)

[25]

3. A 56-year-old male, who previously smoked up to 5 cigarettes a day until 1999 is referred to you with a large mass in his right lung and sputum cytology which is suggestive of a primary adenocarcinoma.

Please discuss the following:

- a) Relevant history and physical examination. (2<sup>1</sup>/<sub>2</sub>)
- b) Radiological evaluation. (2<sup>1</sup>/<sub>2</sub>)
- c) Potential differential diagnoses. (5)
- d) Potential treatment modalities at this stage including chemotherapy and/or radiation therapy, molecular targeted agents and immunotherapy. (7)
- e) Management of the potential side effects of the treatments discussed above. (5)
- f) The patient achieves a partial response to treatment and remains well for the next 12-months. He then develops shortness of breath and a chest x-ray reveals a new right sided pleural effusion. Discuss your work up and treatment options at this stage. (3)

[25]

4. a) i) Briefly discuss the histological variants of thyroid cancer and their implications for the use of radioactive iodine therapy. (3<sup>1</sup>/<sub>3</sub>)
- ii) Discuss your therapeutic approach to localized as well as advanced thyroid cancer. (5)
- b) Discuss the WHO classification of nasopharyngeal carcinoma and your approach to the treatment of early stage and advanced disease. (8<sup>1</sup>/<sub>3</sub>)
- c) i) Define the terms “refractory”, “resistant” and “sensitive” in relation to ovarian cancer chemotherapy. (4<sup>1</sup>/<sub>3</sub>)
- ii) Briefly describe the role of maintenance therapy after de-bulking surgery and the completion of primary platinum based chemotherapy. Discuss which agents have been used in this situation? (4)

[25]