



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



21 February 2019

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 Please write short notes on:
- a) Chemotherapy induced nausea and vomiting (CINV) under the following:
 - i) Categories of CINV experienced by cancer patients. (3)
 - ii) Medicines used in the management of CINV with special reference to mechanisms of action, clinical indications and adverse events. (7)
 - b) The role of kinases in the development, progression and treatment of cancer under the following:
 - i) Receptor tyrosine kinases. (7)
 - ii) Non receptor tyrosine kinases. (4)
 - iii) Serine-threonine kinases. (4)
- [25]
- 2 A 48-year-old female patient is referred to you from her GP with a clinical T2N0M0 left sided breast cancer. The 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 this patient and outline your treatment plan. (5)
 - b) The patient returns to you after surgery for review. Histology of the wide local excision with sentinel lymph node biopsy showed a grade II duct carcinoma of 28mm x 33mm with 0/3 nodes positive and clear margins. Immuno-histochemical stains showed ER 3+ positive in 66-100% of cells, PR 2+ positive in 10-33% of cells and HER2 1+ with a Ki-67 proliferation index of 23%. What adjuvant therapy would you advise in this patient? (10)
 - c) The patient remains well for 2-years but then develops lower back pain. Your work up reveals bone metastases. What is your approach to the patient's care at this point in the first line metastatic setting as well as subsequent lines of therapy? Please mention studies that support your choice of treatment including the use of novel medicines unregistered in South Africa. (10)
- [25]

- 3
- a) Discuss the management of non-smokers with advanced adenocarcinoma of the lung who present with driver mutations of EGFR-1, ALK-1 and ROS-1. (8½)
 - b) A 70-year-old man, being followed with a prior history of a radical prostatectomy for carcinoma of the prostate, had a stable PSA within the normal limits for the last 2-years. However, during the last 2 consultations, 3 months apart, it was noted that the PSA was rising. An isotope bone scan reveals a number of bony metastases. The patient however remains asymptomatic. Discuss the management of this patient with asymptomatic metastatic prostate cancer. (8½)
 - c) Discuss the therapeutic options available to treat patients with low to intermediate risk metastatic renal cell carcinoma. (8½)

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- 4
- A 70-year-old woman presents with a large ill-defined non-tender right breast mass. There are no palpable axillary lymph nodes. She complains of a 6-month history of increasing fatigue, exertional dyspnoea and early satiety. On clinical examination she is noted to be pale with a large tongue, hepatosplenomegaly and pedal oedema. Examination of her heart reveals cardiomegaly, while an ECG suggested a cardiac conduction defect
- a) What would be your differential diagnoses? (3)
 - b) Discuss what investigations you would do to come to a definitive diagnosis. (7)
 - c) A breast biopsy demonstrates infiltrating fibrosis with a few plasma cells. A bone marrow aspirate and flow cytometry suggests a B-cell lymphoproliferative disorder. Protein electrophoresis reveals a monoclonal paraprotein of 24g/l. What are the possible diagnoses? (3)
 - d) What confirmatory biopsy and tissue staining tests would you like to request at this stage? (2)
 - e) Discuss your treatment options and the long term prognosis in this patient. (10)

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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)

1 A 59-year-old man presents with sudden onset of jaundice and itching. He has noticed that his appetite has decreased over the last 2-3 months during which time his weight has dropped from 77kg to 63kg.

a) Discuss your approach to the initial work-up of this patient. (2)

A CT scan of the abdomen demonstrates dilated hepatic and biliary ducts and a 25mm x 21mm mass in the region of the head of the pancreas. There were no liver metastases.

b) Discuss the decision making process in the evaluation of this patient for definitive surgery. (2)

The patient undergoes a Whipple's resection. The pathology reveals an adenocarcinoma of the head of the pancreas 28mm x 25mm x 21mm. The tumor margins were all free of disease and there was one out of nine lymph nodes positive for adenocarcinoma.

c) Discuss the pathological staging of this patient. (2)

d) Discuss your approach to adjuvant treatment in this patient in 2019 with special reference to recent reported studies. (8)

The patient tolerates the adjuvant treatment well. Follow up CT Scans every 3 months for the next year remain free of disease. 18-months after completing chemotherapy, the patient complains of right upper quadrant pain and nausea and vomiting. A repeat CT Scan shows multiple hepatic metastases.

e) Discuss your chemotherapy options in this patient with metastatic adenocarcinoma of the head of pancreas in 2019. (8)

The patient has a partial response to the chemotherapy given but develops a peripheral neuropathy which results in the treatment being stopped after 6-months.

f) Discuss the role of maintenance chemotherapy in this patient. (1)

8-Months after completing chemotherapy for metastatic pancreatic adenocarcinoma, the patient develops lung metastases.

g) Discuss potential 2nd line chemotherapy in this patient in 2019. (2)

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- 2 a) Discuss the mutations that occur in Gastrointestinal Stromal Tumours (GISTs) and their implications for the treatment of this disease. (10)
- b) Outline your approach to the evaluation and treatment of patients with advanced/metastatic neuro-endocrine tumors. (7.5)
- c) What advice would you give to patients who need to undergo chemotherapy treatment for cancer and have not yet completed their families? (7.5)

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- 3 A 27-year-old male patient presents with a testicular mass of 4cm x 4cm and retroperitoneal mass of 6cm x 3cm on an abdominal ultrasound plus a 2cm x 2cm nodule on the right upper lobe on chest x-ray
- a) Discuss your initial evaluation of this patient. (4)
- b) Discuss your chemotherapy plan according to the possible findings above. (5)
- c) During the chemotherapy treatment the patient develops a fever and severe cough. Chest x-rays shows bilateral pulmonary infiltrations. Discuss your management of these pulmonary infiltrations. (4)
- d) At completion of the chemotherapy treatment the patient has a residual retro-peritoneal mass of 3cm x 3cm. Discuss the implications and management of this residual mass. (7)
- e) Discuss the short and long term potential complications of the treatment of this patient. (5)

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- 4 a) Briefly outline the mechanisms of action, uses and toxicities of CDK4/6 inhibitors in cancer. (8 $\frac{1}{3}$)
- b) Briefly discuss the value, or lack thereof, of intraperitoneal chemotherapy in patients with advanced ovarian cancer. (8 $\frac{1}{3}$)
- c) Briefly outline the management of small cell lung cancer in 2019. (8 $\frac{1}{3}$)

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