



THE COLLEGES OF MEDICINE OF SOUTH AFRICA

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

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



21 August 2014

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 Write short notes on 3 of the following 4 questions
- a) Anthracycline antibiotics as cancer chemotherapy: Discuss all potential mechanisms of action, therapeutic uses and toxicities. (8 $\frac{1}{3}$)
 - b) The development of IMiDs in the management of cancer: Discuss possible mechanisms of action, therapeutic uses and toxicities. (8 $\frac{1}{3}$)
 - c) Programmed death receptor and its ligands as targets in the treatment of cancer. (8 $\frac{1}{3}$)
 - d) Platinum coordination compounds as cancer chemotherapy: Discuss mechanisms of action, therapeutic uses and toxicities. (8 $\frac{1}{3}$)
- [25]
- 2 Write short notes on 3 of the following 4 questions
- a) The role of androgen deprivation therapy in hormone sensitive prostate cancer. (8 $\frac{1}{3}$)
 - b) Neo-adjuvant chemotherapy for gastric and gastro-oesophageal junction malignancies. (8 $\frac{1}{3}$)
 - c) Advances in the management of metastatic renal cell cancer. (8 $\frac{1}{3}$)
 - d) EGFR-1 and ALK-1 mutations as targets in non-small cell lung cancer. (8 $\frac{1}{3}$)
- [25]
- 3 Discuss the following
- a) The management of a 48-year-old patient with a classical seminoma on testicular biopsy. On metastatic work up the patient also has evidence of a 6 x 6 cm mass in the retroperitoneal area. (10)
 - b) The role of chemotherapy treatment in patients with both hormone sensitive and castrate resistant prostate cancer. (7 $\frac{1}{2}$)
 - c) Discuss the role of hormonal blockade and radiopharmaceuticals in the treatment of castration resistant prostate cancer. (7 $\frac{1}{2}$)
- [25]

- 4 A 52-year-old post-menopausal woman undergoes a right sided skin sparing mastectomy and sentinel node biopsy. The histology shows a 12mm grade II duct carcinoma with no lymph node metastases. The resection margins are clear and the immunohistochemistry shows the tumour to be ER 3+ positive in 67-100% of cells, PR 2+ positive in 33-66% of cells, and HER2 negative with a Ki-67 proliferation index of 10%. There is no evidence of lymphovascular invasion.
- a) Please discuss whether you would offer the patient adjuvant chemotherapy or hormonal blockade as the first step in her adjuvant therapy, including the rationale for your choice of treatment and the various tools at your disposal that assist you in making your recommendation. (5)
 - b) There are various adjuvant hormonal treatments and schedules that can be used. Discuss what adjuvant hormonal treatment would you recommend for this patient with reasons. (5)
 - c) At the age of 59 years this patient is found to have extensive bone metastases, further examination reveals no visceral metastases. What are the treatment options you would discuss with this patient and why? (10)
 - d) Less than 6 months later the patient develops extensive visceral metastases, briefly outline a possible treatment plan for her at this stage. (5)
- [25]



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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 Discuss 2 of the following 3
- a) Role of kinases in cellular signalling including receptor, non-receptor and second messenger kinases with reference to potential targets for small molecule inhibitors. (12½)
 - b) The development of monoclonal antibodies in the treatment of cancer: From bench to bedside. (12½)
 - c) Role of NF-κB pathway in pathogenesis and management of multiple myeloma. (12½)
- [25]
- 2 A 56-year-old male patient has a “mole” removed from the skin of his lower back, by a dermatologist. The histology is that of a malignant melanoma, Breslow thickness 4.0 mm, Clark’s level 3. During the physical examination you note a 4cm hard lymph node in the right groin.
- a) Describe the investigations you would do at this stage. (7½)
 - b) During the course of your investigations, the patient develops a headache. An MRI scan is done documenting two small cerebral lesions consistent with metastases. Discuss your approach at this stage. (7½)
 - c) Write short notes on recent advances in the treatment of metastatic melanoma. (10)
- [25]
- 3 Discuss 3 of the 4 following questions
- a) The concept of delayed emesis including pathophysiology and treatment options. (8⅓)
 - b) The immediate and follow-up management of a patient undergoing AC (doxorubicin and cyclophosphamide) adjuvant chemotherapy for breast cancer who 9 days after the first cycle of treatment presents with a fever and an absolute neutrophil count of $0.3 \times 10^9/l$. (8⅓)
 - c) The indications for the usage of G-CSF in cancer patients according to current guidelines. (8⅓)
 - d) The aetiology, significance and management of skin toxicity in patients receiving anti-EGFR-1 therapy for epithelial malignancies. (8⅓)
- [25]

- 4 A 42-year-old premenopausal patient presents with a 55mm, node positive lobular carcinoma which is ER 3+ positive in 66-100%, PR 2 + positive 33-66% and HER 2 positive.
- a) Please discuss your approach to this patient's neo-adjuvant treatment. (5)
 - b) Briefly outline the adjuvant treatment plan you would advise the patient to undergo, and the rationale for your proposed treatment. (10)
 - c) This patient develops extensive visceral metastases 3 years after her initial presentation. Please discuss the options for her next two lines of treatment, assuming she would progress again. (5)
 - d) The preservation of fertility is of great concern to many premenopausal patients presenting with breast cancer, assuming the patient would need to undergo chemotherapy prior to hormonal blockade, what are this patient's options. (5)
- [25]