



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



2 March 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)

- 1 Write short notes on 3 (**THREE**) of the following
- a) Mechanisms of action, clinical usage and adverse reactions of medicines used to target the mitotic spindle in cancer chemotherapy. (8 $\frac{1}{3}$)
 - b) The PI-3K/Akt/mTOR signal transduction pathway and medicines used to target it in the treatment of cancer. (8 $\frac{1}{3}$)
 - c) Mechanisms of action of androgen inhibition therapy in patients with castrate resistant prostate cancer (CRPC). (8 $\frac{1}{3}$)
 - d) Mechanism of action and adverse reactions of anthracycline antibiotics in cancer therapy. (8 $\frac{1}{3}$)
- [25]
- 2 Write short notes on 3 (**THREE**) of the following
- a) Neurological paraneoplastic manifestations of malignancy. (8 $\frac{1}{3}$)
 - b) Post-remission treatment options for a 40-year-old male in 1st complete remission following induction therapy for Acute Myelogenous Leukaemia (AML) - excluding Acute Promyelocytic Leukaemia (APL). (8 $\frac{1}{3}$)
 - c) Epidemiology, pathogenesis and treatment options available for unresectable pleural mesothelioma. (8 $\frac{1}{3}$)
 - d) Management of clinical Stage I Testicular Seminoma post radical orchidectomy. (8 $\frac{1}{3}$)
- [25]
- 3 A 36-year-old man presents to a peripheral hospital with a large retroperitoneal mass, bilateral lung metastases, a large mediastinal mass and bilateral cervical lymphadenopathy. He reports that he had a naevus removed from his back 3 years prior. The histology from a biopsy of a cervical lymph node is reported as a poorly differentiated carcinoma with significant crush artefact. The patient is then referred to an oncologist for further management. Discuss your approach as to the investigation, work up and possible management of this patient with a carcinoma of unknown primary site. [25]

- 4 Write short notes on 3 (**THREE**) of the following
- a) Discuss the management of HER2 positive breast cancer patients in the adjuvant setting. (8 $\frac{1}{3}$).
 - b) Discuss the management of a 36-year-old female patient with a T2 (4.2cm x 2.5cm x 1.8 cm), N1 (+3/10 lymph nodes), M0 (CT scan of abdomen, pelvis and chest: no evidence of metastatic disease), Ki67: 78%, triple negative breast cancer. (8 $\frac{1}{3}$).
 - c) Discuss the role of systemic chemotherapy in the management of pancreatic cancer with emphasis on the patient's age and performance status. (8 $\frac{1}{3}$).
 - d) Discuss the adjuvant and neoadjuvant management of patients with resectable gastric carcinoma: Discuss selection of patients and potential treatment options. (8 $\frac{1}{3}$).
- [25]



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Paper 2

3 March 2017

(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 47-year-old female presents with bloody diarrhoea. A colonoscopy reveals a tumour in the sigmoid colon, while a CT abdomen reveals four metastases in the liver, ranging from 3-5cm in diameter. A review at a multidisciplinary meeting considers these metastases to be "borderline" resectable
- Discuss "conversion therapy" prior to surgical metastasectomy in the management of this patient. (4)
 - Discuss the use of molecular predictive and prognostic factors in deciding on the use of biological therapies in this patient. (10)
- The patient achieves a complete response after "conversion therapy" and surgical metastasectomy but develops bilateral non-resectable lung metastases after a subsequent eighteen months
- Discuss your decision making on second line therapy based on the initial systemic therapy used as well as the molecular predictive factors in the initial and subsequent tumours. (7)
- The patient has a good partial response to your second line therapy but develops new liver metastases ten months after commencing therapy
- Briefly discuss potential third line salvage therapies in this patient. (4)
- [25]
- 2 A healthy 35-year-old male presents to his general practitioner with a firm painless 3 x 3cm lymph node in his left inguinal region. The node is unchanged after a course of antibiotic therapy and he is subsequently referred for a lymph node biopsy. Histological examination of the involved node reveals complete effacement of the node by malignant melanoma. On further questioning, the patient reveals that his previous general practitioner removed a pigmented lesion from his left calf approximately three years before. This was unfortunately never sent for histological analysis. A thorough physical examination is within normal limits. PET/CT scanning reveals no other evidence of hypermetabollic metastatic malignant disease
- Discuss all possible options in your further management of this patient. (10)
 - Two years later the patient is found to have multiple lung metastases on a follow up chest x-ray. CT scanning confirms that the metastases are non-resectable
 - Discuss the use of molecular biomarkers in decision making in the management of this patient. (3)
 - Discuss possible options in the management of this patient in 2017. (12)
- [25]

- 3 Write short notes on any 3 (**THREE**) of the following
- a. A 64-year-old woman is started on capecitabine plus oxaliplatin adjuvant chemotherapy for a T3 N1 (+9 out of 10 lymph nodes) M0, well differentiated adenocarcinoma of the colon. A week after commencement of therapy she presents with fever, grade 4 neutropaenia, severe mucositis, oesophagitis, stomatitis and diarrhoea. Discuss the possible causes and their management. (8^{1/3})
 - b. A 59-year-old man presents with stage IV Diffuse Large B Cell non-Hodgkin's Lymphoma. His serum urea is 13.0mmol/L and serum creatinine 190µmol/L. Outline briefly the causes of the renal dysfunction and your management of this patient. (8^{1/3})
 - c. Discuss the features of tumour angiogenesis and briefly discuss three medicines with differing mechanisms of tumour anti-angiogenesis. (8^{1/3})
 - d. Discuss the criteria used for risk stratification of patients with metastatic renal cell carcinoma. (8^{1/3})
- [25]
- 4 Write short notes on any 3 (**THREE**) of the following
- a. Discuss the role of systemic chemotherapy in the treatment of patients with hormone sensitive prostate cancer. (8^{1/3}).
 - b. Discuss the role of anti-PD1 and anti-PDL1 monoclonal antibodies in the management of patients with advanced NSCLC. (8^{1/3}).
 - c. Discuss the workup and treatment option for patients with limited stage small cell cancer. (8^{1/3})
 - d. Discuss the evidence based guidelines for the primary prophylaxis of granulocyte colony stimulating factor in patients undergoing chemotherapy for solid tumours. (8^{1/3})
- [25]