

Clinical Oncology Past Examination Papers

1999 – 2009

Time allowed: 3 hours

There are a total of six (6) questions per paper

JULY 2009

Question 1

You have decided to prepare a meta-analysis on a specific patient intervention for your research project. How, why, and what would you do to achieve this?

Question 2

A 38 year old woman had breast conserving surgery for a node positive, Grade 3, 30mm medullary carcinoma of her left breast. The tumour was ER negative, PR negative and HER2 negative. Her mother had died of ovarian cancer aged 54. She requested an opinion regarding genetics testing.

- What is the process, benefits and disadvantages of a genetics opinion?
- How might a genetics opinion influence her ongoing management?
- She has a 15 year old daughter. How would you advise her regarding future screening for her daughter?

Question 3

- Describe the types and incidence of treatment related second primary malignancies in patients undergoing radiotherapy and/or chemotherapy for Hodgkin lymphoma. What factors influence the risk of developing these second cancers?
- A 40 year old woman, previously treated with mantle radiotherapy and chemotherapy for Hodgkin lymphoma at the age of 16, presented with a 10 mm, screen-detected, grade 2 infiltrating duct carcinoma at the 6 o'clock position in her left breast.
How would her previous treatment affect your recommendations for loco-regional and systemic management?

Question 4

What are the indications for bisphosphonates in the treatment of the following primary cancers and what is the evidence that would support your recommendations?

- Breast.
- Prostate.

Question 5

You are planning to develop a new randomised phase III clinical trial comparing surgery with chemo-radiotherapy for resectable carcinoma of the oesophagus.

- What factors would you need to consider before embarking on this project?
- What fundamental components do you need to include when writing the trial protocol? In your answer, list the key statistical issues.
- What other factors would you need to consider before activating the trial?

Question 6

A 45 year old male presented with a 3 month history of slowly enlarging lumps in his left axilla and left supraclavicular fossa. Apart from mild discomfort in his axilla, he was asymptomatic and had not experienced any weight loss (ECOG 1). He had no co-morbidities and had no past history of cancer. Physical examination revealed a 30 mm hard, fixed mass in his left supraclavicular fossa and a 40 mm hard, mobile mass in his left axilla. The remainder of the physical examination was normal. An incisional biopsy of the supraclavicular fossa mass showed metastatic poorly differentiated carcinoma. He had not undergone any further investigations and

has been referred to you for further management.

- a) What investigations would you recommend for this patient?
- b) Histopathology review confirmed a diagnosis of poorly differentiated carcinoma (non-small cell) and investigations failed to identify a primary site. Staging investigations confirmed nodal disease in his left axilla and supraclavicular fossa, but no evidence of disease elsewhere. What would be your recommended management plan for this patient?

FEBRUARY 2009

Question 1

- a) Describe the potential endocrine and metabolic side effects of cancer treatment in adults, giving examples.
- b) How would you prevent and manage these effects in a man with prostate cancer on long-term androgen deprivation therapy?

Question 2

A previously well 54 year old woman presents with weakness in her right leg. She has no other symptoms and has not lost weight. An MRI scan demonstrates 8 cerebral metastases, measuring up to 3cm in size. A CT scan of the chest reveals a 3cm primary lesion in the left lower lobe. An FNA of the lung lesion shows non-small cell lung cancer. The cerebral lesions are not considered operable or suitable for stereotactic radiation therapy.

- a) Describe your approach to the further investigation of this patient.
- b) What is her prognosis and how would you convey this information to her?
- c) Discuss the factors that impact on the decision to treat a patient with cerebral metastases with radiation therapy.

This woman is taking dexamethasone, 4mg every 6 hours, at the start of her radiation therapy.

- d) How would you manage this medication in this woman? Justify your answer.

Question 3

- a) Discuss the causes of renal failure in patients with malignancy.
- b) What factors would you take into consideration in determining the management of renal failure in a cancer patient under your care?

Question 4

A 43 year old woman finds a mass in her left breast. A mammogram shows a spiculated density measuring 2cm in the 2 o'clock position in the left breast, 6cm from the nipple. An FNA confirms carcinoma.

- a) Discuss her treatment options with respect to management of the breast and axilla.

A wide local excision is performed showing a 2.1cm, grade 3 infiltrating duct carcinoma with clear margins. The tumour is ER and PR negative, and HER-2 positive. One of 27 lymph nodes contains cancer. A decision is made in the multidisciplinary team meeting to treat her with anthracycline-based chemotherapy and Herceptin.

- b) Discuss the issues associated with sequencing adjuvant therapies (both locoregional and systemic) in relation to this patient. Include in your answer potential interactions between treatments.

Question 5

A 35 year old pregnant woman presents at 28 weeks gestation with vaginal bleeding. Investigations reveal an invasive squamous cell carcinoma of the cervix.

- a) Describe and justify your approach to this clinical scenario, including investigation and management. A detailed radiation therapy technique is NOT required.

Question 6

Imaging modalities such as MRI, PET, CT and SPECT may be 'fused' with images acquired subsequently to assist in the management of patients having radiation therapy.

Discuss the benefits and potential problems associated with image fusion in the process of:

- a) treatment planning
b) radiation treatment delivery

JULY 2008

Question 1

Regarding follow-up for oncology patients:

- a) What is the rationale and evidence to support follow-up by Radiation Oncologists in routine clinical practice?
b) What are the potential advantages and disadvantages
c) Describe different models of follow-up care using specific examples.

Question 2

Regarding waiting times to commence a course of radiotherapy:

- a) What would you consider to be an acceptable standard?
b) Describe the clinical effects of delays to commencing treatment, using specific examples.
c) If your centre had unacceptable waiting times for radiotherapy, how would you manage this situation?

Question 3

You have been given the task of establishing a new multidisciplinary meeting for gynaecological cancer.

- a) What are the key principles that need to be considered?
b) What are the potential benefits and difficulties associated with implementation of multidisciplinary care?

Question 4

Regarding patients undergoing radical chemo-radiation for cancer of the oesophagus:

- a) List the causes of malnutrition.
b) What is the significance of malnutrition?
c) What is the role of the dietician in the management of these patients?

Question 5

You have been asked to give an expert opinion regarding a proposal to formalise a prostate cancer screening community program for males over the age of 50.

What are the advantages and disadvantages of implementing such a program?

Question 6

Regarding endocrine therapy for post menopausal patients with oestrogen and progesterone receptor positive metastatic breast cancer:

- a) List the available endocrine agents.
b) Describe the efficacy and potential side effects of each agent.
c) How would the HER2 status of the breast cancer influence your choice of endocrine agent?

MARCH 2008

Question 1

Regarding the management of nausea and vomiting in patients who receive abdominal or pelvic radiotherapy:

- a. what are the potential causes of these symptoms?
b. how would you investigate and arrive at a diagnosis for these symptoms?
c. what pharmacological treatments are available for use in radiotherapy-induced nausea and vomiting? Describe their common dose and administration schedules.

Question 2

A fit 41 year old woman was diagnosed with a bulky circumferential carcinoma of the rectum. The inferior edge

was 5cm from the anal margin and it extended 4 cm superiorly. A rectal ultrasound demonstrated extension through the rectal wall into perirectal fat and pararectal nodal enlargement was also noted. CT and PET staging did not demonstrate any extra pelvic disease.

Following her case discussion at a multidisciplinary meeting it was recommended that she receive neoadjuvant pelvic radiotherapy with concurrent 5-fluorouracil.

- a. What are the acute and late toxicities of neoadjuvant chemoradiotherapy in this setting?
- b. What are the objectives of treatment and what is the evidence for neoadjuvant chemo-radiotherapy in the management of operable rectal cancer?

Question 3

- a. What are the potential causes of delirium in patients with advanced cancer?
- b. Describe your management plan for a 50 yr old man with metastatic lung cancer who presents with a 3 day history of agitation and confusion.

Question 4

Regarding the supportive care of patients receiving radiation therapy for head and neck cancer:

- a. describe your nutritional management plan for a 60 yr old woman receiving concurrent chemo-radiotherapy for a loco-regionally advanced squamous cell carcinoma of the oropharynx.
- b. outline your indications for feeding tube insertion.
- c. what information would you provide to this patient if you were to recommend a prophylactic percutaneous endoscopic gastrostomy tube?

Question 5

- a. How can oncology electronic information systems improve quality and efficiency in radiation oncology practice?
- b. List the limitations associated with electronic oncology information systems.

Question 6

Anxiety and depression are commonly associated with the diagnosis and management of cancer.

- a. Describe how clinicians treating cancer patients can identify those with higher than average risk of psychological morbidity.
- b. What treatment options are available for cancer patients diagnosed with anxiety and/or depression?

AUGUST 2007

Question 1

Regarding the management of cancer pain:

- a) Describe the use of systemic analgesic drugs and other pharmaceutical agents (adjuvants).
- b) What are the commonly observed side effects of opioid therapy and how would you manage them?

Question 2

Describe the acute side effects and the late complications of the following systemic therapies:

- a) Androgen deprivation therapy for prostate cancer.
- b) BEP (Bleomycin, Etoposide and Cisplatin) chemotherapy for testicular cancers.
- c) Herceptin (Trastuzumab) for breast cancer.

Question 3

Regarding colorectal cancer screening programmes:

- a) Describe the criteria for choosing a suitable screening test.
- b) Describe the advantages and disadvantages of potential screening tests including a summary of the evidence for each test.
- c) Describe the factors to be considered in assessing the costs and benefits.

Question 4

Describe the rationale, type of drugs used, expected benefits and potential risks associated with the use of cytotoxic chemotherapy given concurrently with radiation treatment for cancers of the following sites:

- a) Head and neck
- b) Rectum
- c) Oesophagus

Question 5

Critically appraise the use of ^{18}F FDG-PET imaging in staging, determining prognosis, treatment planning and follow up of patients with cancer. Illustrate your answer using two common malignancies.

Question 6

- a) Describe the problems associated with cancer treatment in elderly patients.
- b) Describe how you would evaluate an elderly patient with cancer prior to making recommendations about treatment. What are the important factors that need to be considered to inform your recommendations?

- c) You are going to treat an 80 year old man who has a T2N0M0 (tumour invades muscularis propria) oesophageal cancer with radical chemoradiation. The patient has moderate dysphagia, he is ECOG 1, and has <10% weight loss.

What measures would you recommend to improve treatment compliance and tolerability? Include in your answer possible modifications to the chemoradiation regimen.

July 2007

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February 2007

1. Discuss the issues to be considered when managing a woman who is found to be pregnant at the time of diagnosis with a 10mm maximal diameter primary breast cancer. She has no distant spread of disease on examination and imaging.

2. List the types of surgical procedures and interventions used in the palliative setting for patients with cancer. Give specific examples of each type including their expected outcome.
3. Health related Quality of Life (QOL) is an aspect of patient care that has received increasing attention in recent years.
 - a) How does the concept of QOL relate to the management of patients with cancer?
 - b) What is the value of the QOL concept?
 - c) What difficulties are associated with QOL assessment in clinical trials and practice?
4. With regard to the use of cytotoxic chemotherapy in the treatment of carcinoma of the breast in the neoadjuvant, adjuvant and palliative settings:
 - a) Discuss the evidence and rationale for treatment.
 - b) What are the commonly used regimens?
 - c) What are the expected outcomes?
5. Your advice has been sought to set up a multidisciplinary breast cancer clinic. What factors would you consider in making your recommendations?
6.
 - a) Discuss the justification for following up cancer patients after treatment.
 - b) Describe the ways in which follow up is carried out, giving examples and their intended outcomes.

August 2006

1. Write notes on the systemic therapy options for the following clinical situations:
 - a. Hormone refractory metastatic prostate cancer
 - b. Metastatic renal cell carcinoma
2. A 35 year old woman is diagnosed as having nodular sclerosing Hodgkin's lymphoma involving the mediastinum and left supraclavicular fossa (Stage IIA). A decision is made to treat her with 4 courses of ABVD (Adriamycin, Bleomycin, Vinblastine and Dacarbazine) chemotherapy and involved field radiotherapy (36 Gy in 20 fractions).
 - a. Describe the carcinogenic effects of the proposed treatment.
 - b. What information and advice would you provide to the patient regarding her risk of second cancers?
3. Discuss the application of multimodality image fusion in radiotherapy treatment planning. Give examples which demonstrate how image fusion has influenced conventional CT-based planning.
4. A 62 year old man with a T4N3M0 squamous cell carcinoma of the oropharynx is to receive a radical course of concurrent cisplatin based chemo-radiotherapy to a dose of 70 Gy in 35 fractions over 7 weeks.

Discuss the steps that you would put in place to reduce his risk of hospitalisation and major (RTOG Grade 3 & 4) acute and late toxicities.
5. A 27 year old single man presented with a 3cm right groin node. Biopsy confirmed follicular lymphoma grade 2. Staging revealed involved external pelvic nodes, but was otherwise clear. The patient had a left orchidectomy for undescended testis as a child, but had a normal right testis in situ in the scrotum. He is planning to marry in the near future, and maintaining fertility is a major concern for him and his partner.

His management is now being discussed by the multidisciplinary team, and you are asked for your opinion.

 - a. Briefly describe his management options, with a detailed discussion of the fertility issues associated with each.
 - b. What treatment recommendations and justification would you give to the multidisciplinary team?
 - c. How would you discuss your recommendations to the patient and his partner?
6. You have been asked to lead a national committee to produce guidelines on the management of a particular cancer.

Describe how you would proceed and the information that should be included in the guidelines document.

February 2006

1. Discuss your approach to facilitating a successful consultation with a new patient referred to you with a confirmed diagnosis of cancer. How you would deal with a patient who has a distressed response to their diagnosis such as anger, anxiety or depression?
2. Discuss how you would manage a patient who presents with advanced non-curable malignancy and sub-acute bowel obstruction.
3. Outline how you would set up a radiotherapy department clinical cancer database. Discuss the data you would collect and the practicalities of collecting it. What are the implications of implementing such a database and how would you use the data?
4. Discuss the symptoms and signs of spinal cord compression. Write short notes relevant to the management of spinal cord compression for the following scenarios:
 - a. A man with known primary prostate cancer.
 - b. A previously irradiated patient with infield progression.
 - c. A patient with no prior history of malignancy.

5. Discuss the case for and against population-based screening for the detection of cancers and explain how this differs from case finding.
What criteria make a screening test useful? Give examples to illustrate your answer.
6. Discuss the clinical manifestations, pathophysiology and management of cancer-related hypercalcaemia.

August 2005

1. Evaluate the role of population screening for female breast cancer.
2. Discuss the management of anxiety and depression for patients with cancer.
3. Discuss the management of spinal cord compression by malignancy.
4. A 54 year old man presented with unsteady gait and vertigo 3 years following a pneumonectomy for an adenocarcinoma of the right lung. CT imaging revealed a 2cm lesion in the cerebellum consistent with a metastasis.
Discuss how you would further investigate and manage this patient.
5. Discuss your management of a 65 year old man with hormone refractory prostate cancer that is metastatic to bone.
6. Discuss superior vena caval obstruction in cancer patients.

February 2005

1. Discuss quality assurance and audit in the delivery of radiotherapy.
2. Discuss the management of confusion in patients with malignancy.
3. Discuss the diagnosis and management of meningeal involvement by malignancy.
4. Discuss the role of bisphosphonates in the management of malignant disease.
5. Discuss the late effects of cancer treatment in children and how they might be modified.
6. Discuss the non-surgical treatments for superficial Basal Cell Carcinomas and actinic changes of the skin.

August 2004

1. Evaluate the role of Positron Emission Tomography in the management of malignant disease.
2. Discuss the use of chemotherapy in metastatic breast cancer.
3. A 32 year old nulliparous woman presents with Nodular Sclerosing Hodgkin's Disease in her Left neck and upper mediastinum. Discuss your management with particular reference to the late effects of treatment.
4. Describe your approach to conveying bad news to your patients and their families.
5. Evaluate the follow up of patients treated for malignant disease.
6. What factors determine your management of patients who develop ureteric compression and renal failure due to pelvic malignant disease.

February 2004

1. Evaluate the arguments and evidence for and against population-based screening for prostate cancer.
2. Discuss the management of depression in patients with terminal malignancy.
3. Discuss the use of adjuvant hormone therapy in the management of post-menopausal women with breast carcinoma.
4. Evaluate the role of radiation therapy in follicular and "MALT" lymphomas.
5. Evaluate the role of chemotherapy in non-small cell carcinoma of the lung.
6. You are charged with setting up your new department's clinical database. State your requirements for collection and content of data, assuming your system will be in place for 10 years. Discuss how it will enable clinical research and audit.

July 2003

1. Discuss the use of chemotherapy in the management of squamous cell carcinoma of the head and neck.
2. Patients with terminal malignancy may suffer shortness of breath. Evaluate the causes and discuss how they may be alleviated.
3. Discuss the malignancies that may sometimes occur in pregnancy and describe how the pregnancy will affect their management.
4. Discuss the indications and evidence supporting resection of metastatic disease at various sites.
5. Evaluate the usefulness and potential of familial cancer clinics and genetic testing.
6. Due to staff shortages your department has developed a 6 week waiting list for routine radiation treatment. How might the impact of this on patient care be minimized?

February 2003

1. Discuss the effects of anti-cancer treatment on fertility. Illustrate how you would discuss the impact of this with patients and their families.
2. Discuss the concept of "Levels of evidence" and describe with examples how this informs your use of evidence based medicine.
3. Describe how you would advise a premenopausal woman with carcinoma of the breast regarding her options for systemic adjuvant therapy.

4. Patients with terminal malignancy frequently suffer from nausea and vomiting. Discuss the aetiology and how these symptoms may be alleviated.
5. What is the rationale and role for the use of Positron Emission Tomography in the management of malignant disease?
6. Evaluate the follow up of patients previously treated for cure of cancer.

August 2002

1. Discuss the potential and limitations of screening in the control of bowel cancer.
2. How would you assess the quality of life in patients treated palliatively for malignant disease?
3. Discuss the management of Ductal Carcinoma-in-Situ of the breast.
4. Evaluate the current role of chemotherapy in the treatment of head and neck cancer.
5. Discuss the causes and management of dyspnoea in patients with malignant disease.
6. Evaluate the risks of treatment induced malignancy in patients treated for cure and explain how you would present these risks to patients and their carers.

February 2002

1. Discuss the management of lymph nodes in patients with malignant melanoma.
2. A 35 year old woman is 16 weeks pregnant with her first child. She is found to have a 2cm infiltrating ductal carcinoma of the right breast. Discuss her treatment options.
3. Discuss the diagnosis and management of depression in patients with advanced malignant disease.
4. Evaluate the role of high dose chemotherapy with autografting in the management of malignant disease.
5. Evaluate the utilization of complementary and alternative medicine in patients with malignant disease.
6. Discuss the potential of familial cancer clinics and genetic counselling and testing.

August 2001

1. A 35 year old man is referred following right inguinal orchidectomy for a classical marker negative seminoma. Staging investigations are clear. Discuss your recommendations.
2. Discuss the application of evidence based medicine principles to oncological practice.
3. Evaluate the contribution of chemotherapy to the management of Head and Neck cancer.
4. Discuss your approach to the management of nausea and vomiting in patients with advanced malignant disease.
5. A 45 year old woman presents with inflammatory breast cancer. Staging shows no metastatic disease. Discuss your management.
6. A fit asymptomatic man aged 60 is found to have a liver enlargement 4cm below the costal margin. CT scanning shows multiple metastases and fine needle aspiration biopsy shows adenocarcinoma. How would you manage this man?

February 2001

1. Discuss the role of aromatase inhibitors in the management of breast cancer.
2. Discuss the management of depression in patients with malignant disease.
3. Briefly evaluate the causes of breathlessness in patients with malignant disease and describe techniques for relieving it.
4. A patient with pelvic malignant disease develops renal failure due to ureteric compression. What factors would determine your management?
5. Evaluate the evidence available to guide the multidisciplinary breast cancer team in the management of the axilla in patients with breast cancer.
6. Discuss the development of second malignancies in patients treated for cure and how you would present these risks to the patient and their family.

August 2000

1. Discuss the rationale and current status of synchronous chemoradiation in the management of malignant disease.
2. Discuss the use of drugs, other than anti-cancer agents, in the management of pain in malignant disease.
3. Discuss the various non-surgical modalities that may be of benefit for treatment of metastatic melanoma.
4. Discuss the value and limitations of serum tumour markers in the management of malignant disease.
5. Discuss screening for the early detection of colorectal carcinoma.
6. Describe how you would set up an oncology database for a new oncology centre.

February 2000

1. Two years ago a 53 year old woman had a right modified radical mastectomy for a T2 N1 infiltrating ductal carcinoma of the breast. This was followed by a course of anthracycline containing chemotherapy. She now presents with a biopsy proven nodal metastasis in the right supraclavicular fossa. Staging investigations do not demonstrate any other disease spread. Discuss your management.
2. Discuss the role of Positron Emission Tomography in the management of malignant disease.
3. Discuss the palliative care of patients with symptomatic intrathoracic malignancy.

4. Evaluate the role of genetic testing and genetic counselling in oncological practice.
5. Evaluate the use of bisphosphonates in malignant disease.
6. Discuss the role of hormone therapy in prostate cancer.

August 1999

1. Discuss the role of chemotherapy in the management of carcinoma of the cervix.
2. A 58 year old woman becomes breathless and is found to have a large right pleural effusion, containing adenocarcinoma cells. Describe your subsequent management of this patient.
3. Describe the diagnosis and management of depression in patients with advanced malignant disease.
4. How does coincidental pregnancy affect your management of patients with the various malignancies that occur in the 20-40 year age group.
5. A 25 year old man has a radical inguinal orchidectomy for a stage I seminoma of the right testis. Evaluate the possible further management strategies for him.
6. Justify, with examples, your follow-up of patients who have had a malignant disease treated for cure.

February 1999

1. Discuss the use of unsealed isotopes in the treatment of malignant disease.
2. Discuss the management of cerebral secondaries.
3. Discuss the use of hormones in the management of ductal carcinoma insitu and carcinoma of the breast.
4. Discuss the setting up and potential scope of a familial cancer clinic.
5. Evaluate the arguments for and against screening for prostate cancer.
6. Evaluate the place of high dose chemotherapy with autografting in the management of malignant disease.