

A 47-year-old patient with metastatic breast cancer is admitted for bisphosphonate infusion for severe bone pain.

With help from the palliative care team, the GP has tried several medications without significant benefit. The patient agrees to admission for a bisphosphonate infusion. She asks about side effects of bisphosphonates.

Which complication or side effect is more likely to occur when bisphosphonates are used in cancer-related symptoms?

(Please select 1 option)

<input type="radio"/>	Diarrhoea
<input type="radio"/>	Hypocalcaemia
<input type="radio"/>	Oesophageal erosions
<input type="radio"/>	Osteonecrosis of the jaw
<input type="radio"/>	Renal failure

Dr. Assen

<input type="radio"/>	Diarrhoea
<input type="radio"/>	Hypocalcaemia
<input type="radio"/>	Oesophageal erosions
<input checked="" type="radio"/>	Osteonecrosis of the jaw Correct
<input type="radio"/>	Renal failure

Key Learning Points

Palliative Care

- The risk of osteonecrosis of the jaw is much greater for patients receiving intravenous bisphosphonates in the treatment of cancer.

Explanation

The risk of osteonecrosis of the jaw is much greater for patients receiving intravenous bisphosphonates in the treatment of cancer.

MHRA/CHM advice is as follows:

"Risk factors for developing osteonecrosis of the jaw that should be considered are: potency of bisphosphonate (highest for zoledronate), route of administration, cumulative dose, duration and type of malignant disease, concomitant treatment, smoking, comorbid conditions, and history of dental disease.

All patients receiving bisphosphonates for cancer should have a dental check-up (and any necessary remedial work should be performed) before bisphosphonate treatment.

However, urgent bisphosphonate treatment should not be delayed, and a dental check-up should be carried out as soon as possible in these patients. All other patients who are prescribed bisphosphonates should have a dental examination only if they have poor dental health."

The likelihood of other side effects is not dependent on an underlying cancer diagnosis.

A 63-year-old patient with prostate cancer presents with constipation.

He was diagnosed with prostate cancer after a biopsy four months ago. Following various investigations he was diagnosed with local and distant metastases. Despite this he has remained relatively well and is able to live independently.

He has not opened his bowels for three days and has been feeling generally tired.

Which of the following is the most appropriate next step?

(Please select 1 option)

<input type="radio"/>	Blood tests, including bone profile
<input type="radio"/>	IV fluids
<input type="radio"/>	Laxatives orally
<input type="radio"/>	Refer to surgeons
<input type="radio"/>	Stop opioid

Dr Assem

☐ Blood tests, including bone profile **This is the correct answer**

☐ IV fluids

☐ Laxatives orally

☐ Refer to surgeons

☒ Stop opioid **Incorrect answer selected**

Key Learning Points

Palliative Care

- Hypercalcaemia is a common cause of constipation.

Explanation

Hypercalcaemia is a common problem in palliative care. It is more common in certain cancers and prostate cancer with bone metastasis (as suggested in this scenario) is a frequent cause.

Hypercalcaemia can cause a wide variety of symptoms including constipation.

All of the options are potentially appropriate, depending on the patient, but if there is a high likelihood of hypercalcaemia, this should be ruled out first.

A 48-year-old man is diagnosed with renal cell carcinoma. He presents to his local palliative medicine service with constipation.

His drug list includes morphine sulphate modified release, 40 mg twice a day.

He is assessed for the cause of his constipation and given advice on fluid intake and diet. Alongside these measures he is started on a laxative.

Which would be the most appropriate initial laxative?

(Please select 1 option)

<input type="radio"/>	Docusate
<input type="radio"/>	Fybogel
<input type="radio"/>	Lactulose
<input type="radio"/>	Movicol
<input type="radio"/>	Senna

Dr Assem

☐ Docusate

☐ Fybogel

☐ Lactulose

☐ Movicol

☒ Senna **Correct**

Key Learning Points

Palliative Care

- Senna is the first line agent for morphine-induced constipation.

Explanation

Ninety per cent of patients taking morphine require a laxative.

Morphine causes constipation by enhancing intestinal ring contractions which leads to hypersegmentation which in turn impairs peristalsis.

A stimulant ('contact', 'large bowel') laxative therefore is the most logical choice for this indication. Senna is the most commonly used laxative for this indication. Other options include danthron.

Docusate is a stool softener, Fybogel a bulk-forming agent, lactulose and Movicol are osmotic laxatives.

A woman with a background of metastatic lung cancer is admitted to the Emergency Department with a history of increasing drowsiness, confusion, vomiting and myoclonic jerks.

On examination she is also found to have small pupils.

On questioning her husband you find out she is on morphine sulphate modified release and cyclizine, and has recently had antibiotic treatment for a chest infection.

In view of the features from the examination and history, which is the most likely underlying aetiology for this patient's presenting problem?

(Please select 1 option)

<input type="radio"/>	Hypercalcaemia
<input type="radio"/>	Hyperglycaemia
<input type="radio"/>	Hypoxia
<input type="radio"/>	Morphine toxicity
<input type="radio"/>	Urinary tract infection

Dr Assem

<input type="radio"/>	Hypercalcaemia	
<input type="radio"/>	Hyperglycaemia	
<input type="radio"/>	Hypoxia	
<input type="radio"/>	Morphine toxicity	This is the correct answer
<input checked="" type="radio"/>	Urinary tract infection	Incorrect answer selected

Key Learning Points

Palliative Care

- Reduced conscious level, hallucinations, vomiting, myoclonic jerks and pinpoint pupils are features of opioid toxicity.

Explanation

Reduced conscious level, hallucinations, vomiting, myoclonic jerks and pinpoint pupils are features of opioid toxicity.

All the options can cause an acute deterioration in a palliative care patient and should be excluded in the appropriate situations.

However this combination, and especially small pupils and myoclonic jerks, points strongly toward opioid toxicity. When opioid toxicity is diagnosed, a cause (such as renal impairment) must be sought.

A 45-year-old with a history of renal cell carcinoma presents to his local Emergency Department with a brief history of lethargy. He recently underwent a cycle of chemotherapy.

You take a full history and examine the patient. Following this, you arrange a set of blood tests. Half an hour later you are phoned by the biochemistry laboratory and informed your patient's creatinine is 232. You check his previous results and note his creatinine for four weeks ago was 87. He is on several medications for pain and nausea.

Which of these medications should be avoided in this situation?

(Please select 1 option)

<input type="radio"/>	Cyclizine
<input type="radio"/>	Fentanyl
<input type="radio"/>	Haloperidol
<input type="radio"/>	Morphine
<input type="radio"/>	Paracetamol

Dr. Assem

<input type="radio"/>	Cyclizine	
<input type="radio"/>	Fentanyl	
<input type="radio"/>	Haloperidol	
<input type="radio"/>	Morphine	This is the correct answer
<input checked="" type="radio"/>	Paracetamol	Incorrect answer selected

Key Learning Points

Palliative Care

- Morphine has active metabolites which accumulate with renal impairment and can lead to opioid toxicity.

Explanation

Morphine has active metabolites which accumulate with renal impairment and can lead to opioid toxicity. Morphine should, therefore, be avoided in this situation.

Fentanyl is a good alternative in this situation as the same problem does not occur.

Cyclizine, haloperidol, and paracetamol can all be used in renal impairment but the dose should be altered and patient monitored for side effects.

A 53-year-old woman with lung cancer and secondary spine metastasis presents with severe leg pain.

She has been treated according to the WHO analgesic ladder and is currently taking morphine modified release. However despite increasing doses, her pain is not well controlled. She has also tried amitriptyline which has not helped.

You ask the local palliative medicine consultant for advice and she suggests starting gabapentin.

Which of the following most appropriately describes the recognised primary pathway on which gabapentin is thought to work for its role in the management of neuropathic pain.

(Please select 1 option)

<input type="radio"/>	Activation of GABA inhibitory system
<input type="radio"/>	Enhanced descending inhibition
<input type="radio"/>	Potentiation of glutamate excitatory system
<input type="radio"/>	Sodium channel blockade
<input type="radio"/>	Inhibition of GABA inhibitory system

Dr Assem

<input type="radio"/>	Activation of GABA inhibitory system	This is the correct answer
<input type="radio"/>	Enhanced descending inhibition	
<input type="radio"/>	Potentiation of glutamate excitatory system	
<input type="radio"/>	Sodium channel blockade	
<input checked="" type="radio"/>	Inhibition of GABA inhibitory system	Incorrect answer selected

Key Learning Points

Palliative Care

- Gabapentin potentiates GABA, and possibly inhibits glutamate excitatory neurones, resulting in reduction in neuropathic pain.

Explanation

Gabapentin is a commonly used adjunctive agent for neuropathic pain. Its mechanism of action is not fully understood. Some authors suggest it works by inhibition of glutamate excitatory neurones, whereas others suggest it potentiates GABA. If asked to commit for the purpose of the MRCP examination, potentiation of GABA tends to be the accepted mechanism. Four to six weeks of treatment are often needed before the patient experiences benefit.

Sodium channel blockers, such as lacosamide, are emerging as treatments for neuropathic pain.

Serotonin-noradrenaline re-uptake inhibitors, such as venlafaxine, can enhance descending inhibition in the spinal cord.

You are currently working in the local hospice on a palliative medicine rotation.

A patient is admitted from the GP with a one week history of fatigue, lethargy, itch, and constipation. On arrival he appears drowsy and weak. On further questioning of his wife, you note he has been confused at times and has no appetite.

On examination he looks dehydrated with a pulse of 60. Pupils look normal sized. Respiratory rate is 16 and the rest of the examination is unremarkable.

You review his letters from the oncologist and discover the underlying diagnosis is metastatic renal cell cancer. He has also been complaining of hip pain for the last eight weeks.

Which is the most likely cause of this patient's deterioration?

(Please select 1 option)

<input type="radio"/>	Hypercalcaemia
<input type="radio"/>	Hyperglycaemia
<input type="radio"/>	Hypokalaemia
<input type="radio"/>	Morphine toxicity
<input type="radio"/>	Urinary tract infection

Dr Assem

(Please select 1 option)

<input type="radio"/>	Hypercalcaemia	This is the correct answer
<input type="radio"/>	Hyperglycaemia	
<input type="radio"/>	Hypokalaemia	
<input type="radio"/>	Morphine toxicity	
<input checked="" type="radio"/>	Urinary tract infection	Incorrect answer selected

Key Learning Points

Palliative Care

- Hypercalcaemia of malignancy is a palliative care emergency and should be considered in all patients presenting with acute deterioration.

Explanation

Hypercalcaemia of malignancy is a palliative care emergency and should be considered in all patients presenting with acute deterioration.

It occurs in approximately 10% of patients with cancer and usually in those with disseminated cancer. Typical features include altered consciousness, fatigue, general aches, dehydration, constipation, bradycardias, and other arrhythmias.

Morphine toxicity is unlikely here in view of the normal sized pupils and respiratory rate.

A severe urinary tract infection (with sepsis) could account for the symptoms but you would expect a tachycardia.

Therefore the most likely answer to fit with the clinical features is hypercalcaemia.

A 65-year-old man with castrate-resistant prostate cancer is seen in clinic with an increasingly painful right hip. This is worse on weight bearing and can also wake him from sleep should he roll onto his right side.

His PSA was 27.2 ng/ml when he was last seen in clinic six months ago, the latest reading is 650.1 ng/ml.

Prior to consulting you he sought the opinion of his GP who recently increased his long acting morphine preparation from 30 mg BD to 50 mg BD with little effect on his pain control.

Which would be the best initial management option?

(Please select 1 option)

<input type="radio"/>	Increase long acting morphine to 70 mg BD
<input type="radio"/>	MRI scan of right hip and pelvis
<input type="radio"/>	Palliative radiotherapy to right hip
<input type="radio"/>	Plain x ray of right hip and pelvis
<input type="radio"/>	Prescribe naproxen 250 mg BD

Dr Assem

Please select 1 option

<input type="radio"/>	Increase long acting morphine to 70 mg BD	
<input type="radio"/>	MRI scan of right hip and pelvis	
<input type="radio"/>	Palliative radiotherapy to right hip	
<input type="radio"/>	Plain x ray of right hip and pelvis	This is the correct answer
<input checked="" type="radio"/>	Prescribe naproxen 250 mg BD	Incorrect answer selected

Key Learning Points

Palliative Care

- Plain x ray is the initial investigation in the management of malignant bone pain. It should be used to calculate Mirels' score to guide future management.

Explanation

This patient has had a rapid rise in his PSA and is already castrate resistant; although the question does not specifically state he has known bone metastases it would be expected that you would have already picked up on the red flag symptoms and understood that a very common site of metastasis from prostate cancer is to the bones.

In this case the increasing pain especially on weight bearing and waking him at night are significant red flag symptoms pointing to an enlarging metastasis in his right hip. There is a good chance that left uninvestigated this will lead to a pathological fracture in the next month.

Increasing his morphine may help but his pain is not very responsive to opiates. Adding an NSAID is a good idea in bone pain providing there are no other contraindications. Amitriptyline tends to work best for neuropathic pain but as it is sedating it may help him sleep better. Palliative radiotherapy is an excellent option for pain resistant to analgesics but will do little to reduce his fracture risk.

A plain x ray is a good starting point for investigating this pain, however if it is negative then consideration should be given to an MRI pelvis/hip as even large metastases can be missed on x ray. The x ray can be used to calculate Mirels' score - given that the likely site of the metastasis is peritrochanteric and the pain is functional this gives at least a score of 8 indicating that it is important to liaise with orthopaedics regarding prophylactic pinning of his hip to reduce the risk of fracture.

Mirels' criteria (score >8 suggests prophylactic fixation):

Score	1	2	3
Site	Upper Limb	Lower Limb	Peritrochanteric
Pain	Mild	Moderate	Functional
Lesion	Blastic	Mixed	Lytic
Size	<1/3	1/3 to 2/3	>2/3

An elderly woman with a background of multiple myeloma has been started on opioid analgesia for low back pain.

Since starting opioids she has had problems with nausea and has been tried on two different agents. Her GP started a third antiemetic two weeks ago.

Her husband has noticed she seems restless and cannot keep still. He has become increasingly concerned in the last few days as she has been unable to keep up with him on their walks and has generally 'slowed down'.

From the list of drugs, on which has the patient most likely been started?

(Please select 1 option)

<input type="radio"/>	Cyclizine
<input type="radio"/>	Domperidone
<input type="radio"/>	Haloperidol
<input type="radio"/>	Levomepromazine
<input type="radio"/>	Ondansetron

<input type="radio"/>	Cyclizine	
<input type="radio"/>	Domperidone	
<input type="radio"/>	Haloperidol	This is the correct answer
<input type="radio"/>	Levomepromazine	
<input checked="" type="radio"/>	Ondansetron	Incorrect answer selected

Key Learning Points

Palliative Care

- Haloperidol is a cause of drug-induced parkinsonism.

Explanation

This scenario describes a patient developing drug-induced parkinsonism (DIP).

This can occur when drugs with dopamine receptor antagonist (D2) activity are initiated as antiemetics. Commonly used drugs which fall into this category include haloperidol, domperidone and metoclopramide.

Akathisia and bradykinesia are more common in drug induced parkinsonism.

Of the drugs listed here, haloperidol and domperidone have significant D2 receptor activity. Haloperidol has much greater affinity for central D2 receptors as domperidone less readily crosses the blood brain barrier.

Haloperidol is therefore much more likely to cause DIP.

A 78-year-old woman has been diagnosed with multiple myeloma.

She has been suffering severe bone pain and has been having problems with constipation. She was started on increasing doses of slow release morphine.

Which of the following explains the mechanism of morphine-induced constipation?

(Please select 1 option)

<input type="radio"/>	Anorexia
<input type="radio"/>	Dehydration
<input type="radio"/>	Enhanced intestinal ring contractions
<input type="radio"/>	Nausea
<input type="radio"/>	Reduced bowel secretions

Dr Assem

<input type="radio"/>	Anorexia	
<input type="radio"/>	Dehydration	
<input type="radio"/>	Enhanced intestinal ring contractions	This is the correct answer
<input type="radio"/>	Nausea	
<input checked="" type="radio"/>	Reduced bowel secretions	Incorrect answer selected

Key Learning Points

Palliative Care

- 90% of patients taking morphine require a laxative. Morphine causes constipation by enhancing intestinal ring contractions.

Explanation

Morphine causes constipation by enhancing intestinal ring contractions. This results in hypersegmentation which in turn impairs peristalsis.

Dehydration and anorexia will also contribute but these are not the main mechanism.

Hence enhanced intestinal ring contractions is the correct answer.

Ninety per cent of patients taking morphine require a laxative and a stimulant is the best choice (such as senna).

Dr Assem

A 51-year-old man with a history of locally advanced lung cancer presents to his GP with a short history of facial flushing and swelling and breathlessness.

He looks unwell and becomes more breathless when he lies flat to allow examination of his abdomen. At 45 degrees his JVP is elevated but his lung fields are clear. The GP phones his local hospice for advice from the duty palliative care physician.

Which is the most appropriate management step to give this GP?

(Please select 1 option)

<input type="radio"/>	Breathing exercises
<input type="radio"/>	Oramorph to help him relax
<input type="radio"/>	Oxygen
<input type="radio"/>	Refer immediately to local oncological service
<input type="radio"/>	Send to hospital for CXR

Dr Assem

<input type="radio"/>	Breathing exercises	
<input type="radio"/>	Oramorph to help him relax	
<input type="radio"/>	Oxygen	
<input type="radio"/>	Refer immediately to local oncological service	This is the correct answer
<input checked="" type="radio"/>	Send to hospital for CXR	Incorrect answer selected

Key Learning Points

Palliative Care

- Superior vena caval obstruction is a palliative medicine emergency.

Explanation

The clinical features described in this scenario are typical of superior venal cava obstruction and this is a palliative care emergency.

It is most commonly caused by carcinoma of the bronchus and symptoms can come on rapidly.

If there is a high clinical suspicion the patient should be referred to the local oncology service to confirm the diagnosis and initiate management.

The other options would delay diagnosis and management.

A 35-year-old woman has been admitted to the local hospice for control of pain.

She has been diagnosed with advanced cervical cancer and has continued chemotherapy. During her prolonged admission to the hospice she is transferred to the local oncology centre for cisplatin chemotherapy. The following day she is profoundly nauseated. The staff nurse looking after this lady asks you to prescribe an antiemetic.

Which is the most appropriate antiemetic for this indication?

(Please select 1 option)

<input type="radio"/>	Cyclizine
<input type="radio"/>	Domperidone
<input type="radio"/>	Haloperidol
<input type="radio"/>	Metoclopramide
<input type="radio"/>	Ondansetron

Dr Assem

<input type="radio"/>	Cyclizine
<input type="radio"/>	Domperidone
<input type="radio"/>	Haloperidol
<input type="radio"/>	Metoclopramide
<input checked="" type="radio"/>	Ondansetron Correct

Key Learning Points

Palliative Care

- Ondansetron is a potent 5HT₃-receptor antagonist and is useful for treating post-chemotherapy nausea.

Explanation

Ondansetron is a potent 5HT₃-receptor antagonist.

It is an especially useful antiemetic when nausea results from a massive release of serotonin (5HT) from enterochromaffin cells (for example, post-chemotherapy).

Certain chemotherapy agents (for example, cisplatin) have a high 'emesis risk' and treatment with ondansetron or other related drugs is essential.

In the United Kingdom 5HT₃ antagonists are licensed only for post-chemotherapy and post-operative nausea.

You are caring for a patient with metastatic uterine cancer who is in pain.

Her GP has been treating her in line with the WHO analgesic ladder. She has been started on codeine as step two on the ladder. Unfortunately she gains no additive analgesic effect from codeine.

Which is the likely mechanism for this poor response to codeine?

(Please select 1 option)

<input type="radio"/>	Concomitant use of cyclizine
<input type="radio"/>	Concomitant use of prednisolone
<input type="radio"/>	CYP2D6 poor metaboliser
<input type="radio"/>	Hypercalcaemia
<input type="radio"/>	Renal impairment

Dr Assen

<input type="radio"/>	Concomitant use of cyclizine	
<input type="radio"/>	Concomitant use of prednisolone	
<input type="radio"/>	CYP2D6 poor metaboliser	This is the correct answer
<input type="radio"/>	Hypercalcaemia	
<input checked="" type="radio"/>	Renal impairment	Incorrect answer selected

Key Learning Points

Palliative Care

- The analgesic effect of codeine depends on its conversion to morphine by the CYP2D6 hepatic enzyme.

Explanation

The analgesic effect of codeine depends on its conversion to morphine by the CYP2D6 hepatic enzyme.

Up to 10% of Caucasians are CYP2D6 poor metabolisers and are unlikely to derive any analgesia from it.

If hepatic metabolism is impaired for any other reason (drugs or hepatic impairment) patients are also unlikely to benefit from codeine.

A 67-year-old man with a history of metastatic lung cancer complains of lateral chest wall pain.

You review his notes and radiological investigations and note he has been diagnosed with lung cancer with metastatic deposits in his ribs. You take a full history and examine the patient; he complains of pain which radiates from his right lateral chest wall around to his sternum.

Which of the following is the most appropriate choice of analgesia to try first in this situation?

(Please select 1 option)

<input type="radio"/>	Amitriptyline
<input type="radio"/>	Carbamazepine
<input type="radio"/>	Gabapentin
<input type="radio"/>	Ibuprofen and tramadol
<input type="radio"/>	Morphine

- | | |
|----------------------------------|---------------------------------------|
| <input type="radio"/> | Amitriptyline |
| <input type="radio"/> | Carbamazepine |
| <input type="radio"/> | Gabapentin |
| <input checked="" type="radio"/> | Ibuprofen and tramadol Correct |
| <input type="radio"/> | Morphine |

Key Learning Points

Palliative Care

- Nerve pain can be responsive to NSAIDs and opioids so these should be used first (as part of the WHO analgesic ladder).

Explanation

This pain may be due to metastatic deposits within the ribs, but may also have an element of neuropathic pain.

Nerve pain often also has a nociceptive opioid responsive element and hence opioids (with a combination of nonsteroidal anti-inflammatory drugs [NSAIDs]) should be tried first and used as part of the WHO analgesic ladder.

Thus, ibuprofen and tramadol are the correct answer and not morphine.

Morphine would be tried next, followed by the other agents.

A patient with a history of pancreatic cancer complains of central abdominal pain.

The patient is not constipated and his most recent blood tests were unremarkable. His GP has started him on paracetamol 1 g QDS and asks you, as the speciality doctor in palliative medicine, for advice on how to improve his pain relief.

Which is the most appropriate drug choice?

(Please select 1 option)

<input type="radio"/>	Codeine 8 mg + already prescribed paracetamol
<input type="radio"/>	Codeine 30 mg + already prescribed paracetamol
<input type="radio"/>	Double dose of PCM
<input type="radio"/>	Oramorph
<input type="radio"/>	Tramadol

Dr Assem

(Please select 1 option)

<input type="radio"/>	Codeine 8 mg + already prescribed paracetamol	
<input checked="" type="radio"/>	Codeine 30 mg + already prescribed paracetamol	This is the correct answer
<input type="radio"/>	Double dose of PCM	
<input checked="" type="radio"/>	Oramorph	Incorrect answer selected
<input type="radio"/>	Tramadol	

Key Learning Points

Palliative Care

- Step two of the WHO analgesic ladder suggests a weak opioid plus a non-opioid

Explanation

This question requires knowledge of the WHO analgesic ladder.

This underpins the management of cancer (and non-cancer) pain management and provides a stepwise management strategy to pain relief.

- Step one is simple analgesia
- Step two uses a weak opioid plus a non-opioid.

This patient has not gained relief from step one so moving to step two (that is, codeine 30 mg plus paracetamol) is the logical next choice of those available here.

Codeine 8 mg in combination with paracetamol has not been convincingly shown to offer greater analgesic benefit over paracetamol alone and is therefore not recommended (as patients can develop codeine side effects).

A 67-year-old man has been diagnosed with metastatic lung cancer. He has moderate pain and has been started on morphine slow release twice a day. After a few doses he becomes nauseated and vomits on one occasion.

You are working in palliative care and are asked to advise on the most appropriate antiemetic. He has no other medical history.

Which of the following is the most appropriate first choice management option?

(Please select 1 option)

<input type="radio"/>	Cyclizine
<input type="radio"/>	Domperidone
<input type="radio"/>	Haloperidol
<input type="radio"/>	Ondansetron
<input type="radio"/>	Withdraw morphine

Dr Assem

(Please select 1 option)

<input type="radio"/>	Cyclizine	
<input type="radio"/>	Domperidone	
<input type="radio"/>	Haloperidol	This is the correct answer
<input checked="" type="radio"/>	Ondansetron	Incorrect answer selected
<input type="radio"/>	Withdraw morphine	

Key Learning Points

Palliative Care

- Haloperidol is a first line antiemetic for opioid-induced nausea in the palliative care setting.

Explanation

Haloperidol is a first line antiemetic for opioid-induced nausea in the palliative care setting. Its action is predominantly via D2-receptor antagonism in the chemoreceptor trigger zone (CTZ) in the brain stem.

Ninety per cent of patients taking morphine require antiemetics (morphine stimulates D2 receptors in the CTZ).

Cyclizine, although commonly used, is less effective.

Domperidone also has some central D2 antagonism but less than haloperidol.

Ondansetron is a 5HT₃ antagonist and is mainly used in post-chemotherapy or radiotherapy induced nausea.

Withdrawing morphine would resolve the problem, although this is not an appropriate response as the patient has moderate pain and nausea which can be managed with antiemetics.

Dr. Arsen

You are working as a palliative medicine speciality doctor and you are asked to assess and admit a 56-year-old woman with metastatic lung cancer to the local hospice.

She was diagnosed with cancer two months ago and has been increasingly troubled with low back pain. Her GP has been increasing doses of morphine without effect. The GP asked for admission for help with symptom control.

On questioning, the patient complains of low back pain with occasional feeling of weakness and 'tingling' in her legs. There has been no bowel or bladder disturbance.

On examination there is some tenderness over L2 and power in both legs is slightly reduced. There are no other abnormalities to find.

Which is the most appropriate initial management?

(Please select 1 option)

<input type="radio"/>	Arrange lumbar x ray
<input type="radio"/>	Arrange urgent MRI
<input type="radio"/>	Bed rest
<input type="radio"/>	Increase analgesia and arrange physiotherapy
<input type="radio"/>	Urgent referral to local oncology service and start high dose steroid

<input type="radio"/>	Arrange lumbar x ray	
<input type="radio"/>	Arrange urgent MRI	
<input type="radio"/>	Bed rest	
<input type="radio"/>	Increase analgesia and arrange physiotherapy	
<input checked="" type="radio"/>	Urgent referral to local oncology service and start high dose steroid	Correct

Key Learning Points

Palliative Care

- Spinal cord compression (SCC) is a medical emergency.

Explanation

Metastatic spinal cord compression (MSCC) is defined as spinal cord or cauda equina compression by direct pressure and/or induction of vertebral collapse or instability by metastatic spread or direct extension of malignancy that threatens or causes neurological disability.

The true incidence of MSCC in England and Wales is not known but studies have suggested it is as much as 80 cases per million per year (approximately 4000 per year). MSCC is a medical emergency and a low index of suspicion is required as the initial features may be non-specific. Recent studies have shown the median times from the onset of back pain and nerve root pain to referral were 3 months and 9 weeks respectively. Nearly half of all patients with MSCC were unable to walk at the time of diagnosis and of these, 67% had recovered no function after one month.

In this scenario, there is a significant chance of MSCC and you are in an out-of-hospital setting so urgent referral to the oncologists is the most appropriate answer and administration of high dose steroids. NICE guidance recommends this is done immediately in anybody with neurological symptoms and signs, and patients transferred to a unit with 24-hour capability for MRI and definitive treatment of MSCC. The oncologists are likely to recommend high dose dexamethasone whilst awaiting transfer.

If you were in a hospital setting you would want to discuss the case with the oncologists and orthopaedic surgeons and organise an MRI scan. This MRI should be of the whole spine, unless there is a specific contraindication. NICE recommends it be carried out within 24 hours in patients with neurological signs, and within one week if there is spinal pain suggestive of metastases. Occasionally the MRI should be carried out sooner if there is a pressing clinical need for emergency surgery, but out of hours MRI should only be performed in clinical circumstances where there is an emergency need and intention to proceed immediately to treatment. This should therefore be decided by either the oncology or orthopaedic team.

Definitive treatment of MSCC is either surgery or radiotherapy. At present, relatively few patients with MSCC in the UK receive surgery. However, research evidence suggests that early surgery may be more effective than radiotherapy at maintaining mobility in a selected subset of patients.

You are working in a hospice for a palliative medicine team and you are called by one of the local GPs for medication advice.

A patient of hers has recently been diagnosed with pancreatic cancer and associated severe pain. The GP started the patient on morphine sulphate modified release and an antiemetic.

Two days after starting the antiemetic the patient came back to see the GP complaining of feeling more sleepy, blurred vision at times, constipation, and a very dry mouth.

On which antiemetic was the patient most likely to have been started?

(Please select 1 option)

<input type="radio"/>	Cyclizine
<input type="radio"/>	Domperidone
<input type="radio"/>	Haloperidol
<input type="radio"/>	Metoclopramide
<input type="radio"/>	Ondansetron

Dr. Assem

☐ Cyclizine **This is the correct answer**

☐ Domperidone

☐ Haloperidol

☐ Metoclopramide

☒ Ondansetron **Incorrect answer selected**

Key Learning Points

Palliative Care

- Cyclizine is a commonly used antihistamine antiemetic and has strong affinity for muscarinic receptors. Therefore anticholinergic side effects are common.

Explanation

Cyclizine is a commonly used antihistamine antiemetic and its primary site of action is the vomiting centre (which is rich in histamine and muscarinic cholinergic receptors).

Cyclizine has a strong affinity for muscarinic receptors and therefore anticholinergic side effects (dry mouth, drowsiness, blurred vision, constipation, etc) are common, especially in the first few days.

The other drugs listed do not have significant muscarinic receptor affinity.

A 73-year-old female patient has been admitted from the palliative medicine clinic for an infusion of bisphosphonate for intractable bone pain. This pain has responded only minimally to opioids and NSAIDs and the consultant thinks bisphosphonates are indicated.

The patient undergoes an infusion of pamidronate and you are asked to review her the next day. Unfortunately she has not noticed any improvement in her pain and asks you why this is so.

Choose the most appropriate next step?

(Please select 1 option)

<input type="radio"/>	Cancel any future pamidronate infusions
<input type="radio"/>	Increase her opioids
<input type="radio"/>	Prescribe a further dose of pamidronate
<input type="radio"/>	Prescribe an alternative bisphosphonate
<input type="radio"/>	Add in gabapentin to her analgesic regimen

Dr Assem

<input type="radio"/>	Cancel any future pamidronate infusions	
<input type="radio"/>	Increase her opioids	This is the correct answer
<input type="radio"/>	Prescribe a further dose of pamidronate	
<input checked="" type="radio"/>	Prescribe an alternative bisphosphonate	Incorrect answer selected
<input type="radio"/>	Add in gabapentin to her analgesic regimen	

Key Learning Points

Palliative Care

- Bisphosphonates are useful adjuncts for bone pain, especially in breast cancer and myeloma.

Explanation

Bisphosphonates are useful adjuncts for bone pain, especially in breast cancer and myeloma.

The beneficial effect of bisphosphonates can be delayed for up to two weeks and can last for one month, and treatments are therefore usually given monthly (typically for 6 months).

Therefore the correct response is to increase her analgesia whilst waiting for the bisphosphonates to work and review over the next few days to see whether you could reduce them again.

A 37-year-old man with advanced lymphoma is admitted to a hospice for control of a variety of symptoms. He is known to have advanced mediastinal disease.

After three days you are called to assess him as he has complained to the nurses of shortness of breath. On arrival in his room he looks unwell. He is struggling to complete sentences because of breathlessness. His venous pressure is elevated and his pulse is 120. His chest is clear with a normal percussion note.

Which is the most likely diagnosis?

(Please select 1 option)

<input type="radio"/>	Left ventricular failure
<input type="radio"/>	Panic attack
<input type="radio"/>	Pericardial effusion
<input type="radio"/>	Pleural effusion
<input type="radio"/>	Pneumothorax

<input type="radio"/>	Left ventricular failure	
<input type="radio"/>	Panic attack	
<input type="radio"/>	Pericardial effusion	This is the correct answer
<input type="radio"/>	Pleural effusion	
<input checked="" type="radio"/>	Pneumothorax	Incorrect answer selected

Key Learning Points

Palliative Care

- Diagnosing pericardial effusions early is essential and should always be considered as a differential for breathlessness.

Explanation

Diagnosing pericardial effusions early is essential and should always be considered as a differential for breathlessness, especially in patients with mediastinal disease.

A strong clinical clue is breathlessness with raised venous pressure but normal chest examination.

Left ventricular failure, pleural effusion and pneumothorax would be likely to result in an abnormal chest examination.

A panic attack would not cause these examination findings (unless panic occurred on top of another condition).

You are asked to see a 78-year-old man who has been admitted to the ward for terminal care following a massive subarachnoid haemorrhage.

He is unconscious but the nurses are concerned that he has pooling of secretions, tries to cough and becomes distressed.

On examination he is unconscious, but has a respiratory rate of 30 and has a death rattle. He is receiving diamorphine via a syringe driver.

Which of the following is the most appropriate treatment for him?

(Please select 1 option)

<input type="radio"/>	Atropine nebulisers
<input type="radio"/>	Hyoscine butylbromide administered subcutaneously
<input type="radio"/>	Increase the dose of diamorphine via the syringe driver
<input type="radio"/>	Salbutamol nebulisers
<input type="radio"/>	Saline nebulisers

Please select 1 option

<input type="radio"/>	Atropine nebulisers	
<input type="radio"/>	Hyoscine butylbromide administered subcutaneously	This is the correct answer
<input checked="" type="radio"/>	Increase the dose of diamorphine via the syringe driver	Incorrect answer selected
<input type="radio"/>	Salbutamol nebulisers	
<input type="radio"/>	Saline nebulisers	

Key Learning Points

Palliative Care

- Both hyoscine and atropine when given subcutaneously are thought to be equally appropriate for drying up secretions.

Explanation

The answer is hyoscine butylbromide s/c which can be given up to three times per day in boluses of 10-20 mg.

Both hyoscine and atropine when given subcutaneously are thought to be equally appropriate for drying up secretions.

Whilst both atropine and salbutamol given in nebulised form are bronchodilators, they are unlikely to be effective in relieving his symptoms.

Saline nebulisers are only likely to irritate him further and cause worsening coughing.

Increasing his diamorphine may be associated with significant risk of hastening a respiratory arrest.

You are currently working on a respiratory ward and looking after a patient with mesothelioma. She was diagnosed with mesothelioma six months before and has deteriorated rapidly.

She was admitted with breathlessness and a pleural effusion was diagnosed, but not drained. Thirty six hours after admission the patient passed away. You are called by the bereavement office to complete the death certificate as soon as possible as the family wishes to arrange the funeral for early the following week.

Which is the most appropriate action to take?

(Please select 1 option)

<input type="radio"/>	Ask consultant to complete the death certificate
<input type="radio"/>	Complete the death certificate yourself as you know the family
<input type="radio"/>	Discuss the case with the patients oncologist
<input type="radio"/>	Discuss with the patients GP to confirm the diagnosis
<input type="radio"/>	Refer to the coroner's office.

Dr Assem

<input type="radio"/>	Ask consultant to complete the death certificate
<input type="radio"/>	Complete the death certificate yourself as you know the family
<input type="radio"/>	Discuss the case with the patients oncologist
<input type="radio"/>	Discuss with the patients GP to confirm the diagnosis
<input checked="" type="radio"/>	Refer to the coroner's office. Correct

Key Learning Points

Palliative Care

- Deaths from mesothelioma must be reported to the coroner's office.

Explanation

Patients with mesothelioma must be referred to the coroner's office as it is considered an industrial disease.

The coroner will often request a limited post mortem to confirm the diagnosis and an inquest held.

It is your statutory obligation to inform the coroner in this situation and so even though it will be a difficult time for the family, they must be informed of this (and the reasoning) in a sensitive way.

You could ask the oncologist but the advice will be the same and it would just cause delays.