Emergencies in palliative care

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Abstract

Oncological emergencies are common in patients with advanced cancer and may confer significant physical and psychological burden. Swift recognition of such events will allow rapid contextualized evaluation and management, which may need to be tailored according the individual patients circumstances. Wherever possible, the anticipation of a potential emergency allows clinicians to preempt potential crises.

Keywords cord compression; hypercalcaemia; pathological fracture; terminal delirium; terminal haemorrhage; venous thromboembolism

Introduction

An emergency is usually defined as 'a serious, unexpected and often dangerous situation requiring immediate action', yet within the palliative care setting the response should be considered more in terms of the patient's clinical context than of the event itself. For example, investigations may not be appropriate if the patient is not suitable for the definitive treatment that would follow. Decisions should consider the:

- natural history and prognosis of the disease
- patient's performance status
- patient's and family's wishes
- burden and likely outcome of treatment
- symptom burden of the condition.

Most medical emergencies in palliative care can be predicted by understanding the relevant pathophysiology and natural history; anticipation and pre-emptive elective interventions lead to more effective treatment. When intervention is inappropriate, early discussion with staff, patient and family of what may lie ahead can avoid the stress of unexpected developments and the need or urgent clinical decisions. Such discussions need to be approached sensitively in order to minimize anxiety that the event will happen.

Metastatic spinal cord compression

Metastatic spinal cord compression (MSCC) is compression of the spinal cord or cauda equina by direct pressure and/or induction of vertebral collapse by metastatic spread or direct extension of malignancy that threatens or causes neurological disability. It is most common in cancers that metastasize to bone, for example breast, lung, kidney, prostate and thyroid, and is usually caused by expansion of vertebral body metastases into the spinal canal. Full management is covered in detail in the 2008 National Institute for Health and Care Excellence (NICE) guideline.[1]

Swift diagnosis and appropriate management are critical in minimizing long-term disability: 50% of patients with MSCC are unable to walk by the time of diagnosis, with 67% regaining no function after 1 month.[2] A low index of suspicion is therefore needed for patients with symptoms suggesting spinal metastases:

- pain in the middle (thoracic) or upper (cervical) spine
- progressive lower (lumbar) spinal pain
- severe unremitting lower spinal pain
- spinal pain aggravated by straining (coughing, sneezing)
- localized spinal tenderness
- nocturnal spinal pain preventing sleep.

Progressive compression may result in dermatomal pain associated with the adjacent nerve root. Patients develop progressive numbness, objective sensory loss, weakness and finally loss of bowel and bladder sensation.

Examination

Physical examination may reveal a well-defined sensory level, weakness, altered muscle tone and extensor or absent plantar responses. The signs can be subtle, and their absence does not exclude significant spinal cord compression.

Investigations

MRI of the whole spine (Figure 1) should be offered to patients suspected of having spinal metastases and any of the following:

- neurological symptoms including radicular pain, limb weakness, difficulty in walking, sensory loss or bladder or bowel dysfunction
- neurological signs of spinal cord or cauda equina compression.

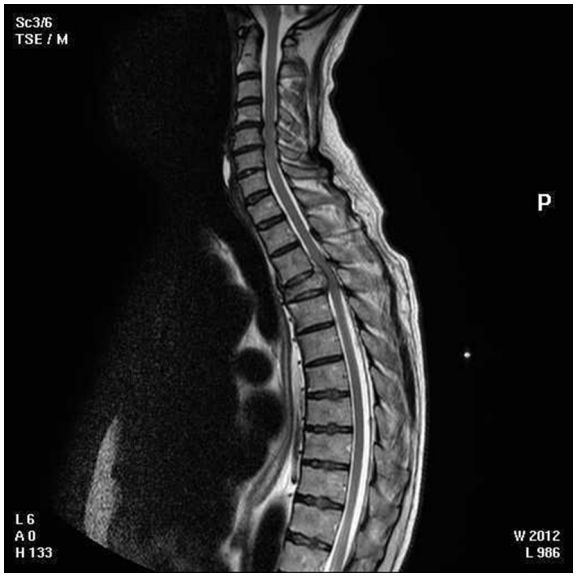

Figure 1 MRI spine showing compression of cord at level of T5.

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Management

NICE recommends that all hospitals have agreed pathways for investigating and managing suspected spinal cord compression, including a named daily coordinator to advise. The immediate management of a suspected cord compression is:

- nursing the patient flat until a definitive diagnosis has been made
- dexamethasone (16 mg)
- insertion of a catheter if the patient has urinary retention.

After MRI of the spine, a discussion with the orthopaedic surgeons can decide the appropriateness of spinal surgery, usually if there is spinal instability or disease progression despite radiotherapy. After successful surgery, radiotherapy may help pain control and prevent progression. Surgeons are reluctant to operate after radiotherapy since healing is often impaired.

The most commonly treatment for cord compression is, however, radiotherapy. This takes weeks to achieve an optimal effect and may not be appropriate if the patient will not progress to further treatment.

Patients in whom treatment is unsuccessful or inappropriate are likely to develop progressive disability including paraplegia. They will probably require long-term nursing care, either in a nursing home or at home with full support. Bowel and bladder problems may require long-term catheterization and regular stimulant laxatives (e.g. bisacodyl suppositories).

Superior vena caval obstruction

Superior vena caval obstruction (SVCO) is most commonly seen in lung cancer (accounting for 80% of cases of small cell lung cancer) and mediastinal lymphoma. It is usually caused by extrinsic compression of the superior vena cava (SVC) by the tumour, although venous thrombosis is a less common cause.[3]

SVCO usually presents with facial oedema and swelling of the upper chest and arms, with a characteristic blueish/red discolouration of these areas. The superficial veins can be prominent. Patients may complain of cough, dyspnoea and headache or fullness of the head.

Examination is likely to reveal oedema and/or venous distension of the upper body and cyanosis, especially when SVCO develops rapidly before collateral vessels can be formed.

The diagnosis is largely clinical, although chest radiography and computed tomography (CT) should be undertaken to determine the extent of the disease if active treatment is being considered.

Management

Patients should initially be given dexamethasone to shrink the extrinsic cause of the SVCO. If thrombus is a factor, anticoagulants should be given. Low-molecular-weight heparin (LMWH) is now the first-line anticoagulant to treat thrombosis in cancer patients and is more effective than warfarin.

Immediate symptomatic relief can be achieved by inserting a stent into the SVC under radiological control. This technique is becoming more widely available in general hospitals and is the preferred approach in palliative care patients because of the immediate effect. In addition, these patients usually have an established diagnosis and have already undergone previous radiotherapy or chemotherapy.

Thrombolysis can be considered when SVCO is associated with extensive thrombosis, but should be used in caution in patients at risk of bleeding. Thrombolytics are best given directly into the SVC via a cannula.

Radiotherapy, previously the mainstay of treatment, can be considered if a tumour is causing compression, but its effect will be delayed.

Haemorrhage

The intrinsic process of angiogenesis means many cancers carry a risk of bleeding. Furthermore, cancers lying close to a major artery can cause major haemorrhage, for example invasive lung tumours invading the aorta, neck cancers related to the carotid artery (especially if the area has been previously irradiated), gastrointestinal cancers and gynaecological tumours.

Haemorrhage will be the terminal event for many of these patients and will have been preceded by one or more herald bleeds. Resuscitation is inappropriate, and anticipatory prescribing of end-of-life medicines may be the best approach. Current guidelines suggest that when the haemorrhage is recognized to be a terminal event, the patient should be sedated using a benzodiazepine (e.g. midazolam 10 mg intravenously or intramuscularly, repeated until adequate sedation has been achieved).[4] Subcutaneous infusion will be less effective owing to circulatory collapse and poor perfusion of the skin.

For patients in pain, diamorphine should be given in the patient's usual breakthrough dosage. For opioid-naive patients, 5 mg is appropriate.

Recent research has suggested that acute arterial haemorrhagic events such as a carotid artery blow-out usually render the patient unconscious within minutes, and the administration of end-of-life drugs is then likely to be futile. Furthermore, leaving the patient alone to collect sedative drugs risks the patient dying alone,[5] so the most important action is arguably to stay with the patient. Distress from seeing large amounts of blood can be reduced by masking the impact using green towels.

There are several options for patients with a good performance status if active intervention is felt to be appropriate; these depend on the type of cancer and location of the bleeding points. Decisions regarding fluid resuscitation and blood replacement should be made early. Gastrointestinal bleeding from stomach or bowel tumours may require endoscopy, and local measures (e.g. endoscopic injection of adrenaline (epinephrine)) may be helpful. Some tumours, for example gynaecological cancers, can be managed by embolization under interventional radiology.

Metabolic disturbances

Hypercalcaemia occurs in 10% of cancer patients but can affect up to 40% of those with myeloma or metastatic breast cancer. It is the most common metabolic disturbance seen in oncology that requires urgent management.[6]

Features

The symptoms are usually non-specific and gradual, the clinical presentation frequently being attributed to disease progression. Clinicians should have a low index of suspicion in patients who have become progressively unwell, especially those with a