

# Emergencies in palliative medicine

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## Abstract

Sudden changes in a patient's condition that require urgent treatment are not uncommon during the last phase of a patient's life. The diagnosis and management of spinal cord compression, shortness of breath, haemorrhage, metabolic disturbance, fractures and neurological conditions are discussed. Appropriate treatment can make a big difference to how the patient and family cope and anticipation of potential problems is advocated.

**Keywords** confusion; emergencies; haemorrhage; hypercalcaemia; palliative care; pleural effusion; pulmonary embolus; spinal cord compression; superior vena caval obstruction

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In palliative care, the definition of what constitutes an emergency is critical. It is determined largely by the clinical context and less by the event itself; the onset of signs of spinal cord compression in an ambulant patient with slowly progressive, end-stage prostate cancer requires immediate attention, whereas the same event in a patient confined to bed because of general debility from progressive liver metastases might not constitute an emergency. In every case, the decision of whether to take urgent action must be based on:

- the patient's general condition
- the disease and its prognosis
- the patient's and family's wishes
- the burden of any proposed treatment
- the distress caused by the symptoms.

The following discussion of what action to take assumes prior assessment of whether action is appropriate.

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Many of the potential emergencies that arise in palliative care are predictable from the nature and extent of the disease. Early intervention (when appropriate) may often lead to more effective treatment. When intervention is inappropriate, early discussion with staff, patient and family of what may lie ahead may avoid the stress of unexpected developments and the need for urgent clinical decisions. However, it may also increase anxiety that the event will happen.

## Spinal cord compression

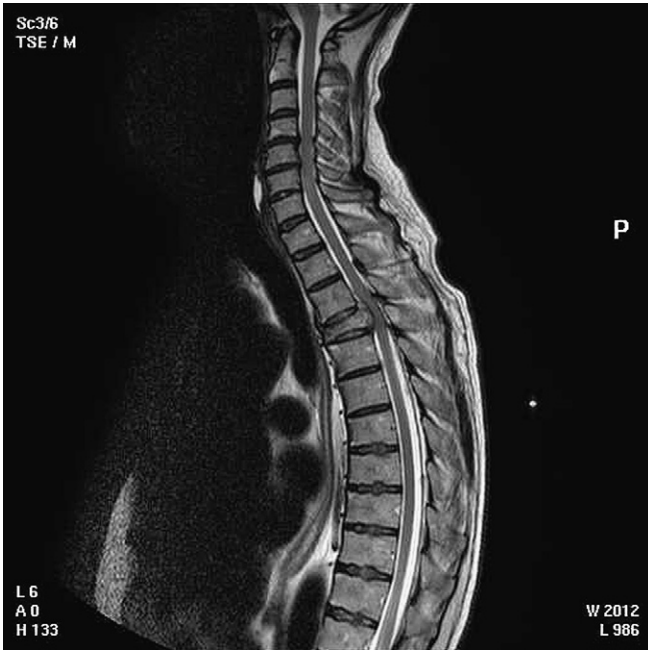
The outcome in patients with spinal cord compression is critically dependent on the speed of diagnosis and treatment.<sup>1</sup> Patients who are ambulant when treated usually remain so; those who are not, seldom recover. Back pain in a cancer patient requires immediate, careful evaluation, particularly if accompanied by a neurological deficit. Spinal cord compression occurs particularly in those with cancers that tend to metastasize to bone; breast, prostate and kidney are the most common. Compression is usually caused by expansion into the spinal canal of metastases within the vertebral body or neural arch. Intradural and intraspinal metastases are rare.

**Features:** the initial symptom of spinal cord compression is usually localized back pain caused by the underlying metastasis. As the cord becomes compressed, the pain may become referred to the dermatome supplied by the adjacent nerve root. Patients then develop progressive numbness, objective sensory loss, weakness and, finally, loss of bowel and bladder sensation. Physical examination may reveal a well-defined sensory level, weakness, increased or reduced muscle tone, and extensor or absent plantar responses. Signs may be subtle, however, and their absence does not exclude significant spinal cord compression.

**Investigations:** suspected spinal cord compression requires urgent investigation. Myelography is now obsolete and CT has been superseded by MRI, which more accurately defines the spinal anatomy and any associated pathology (Figure 1).

**Management:** immediate management comprises intravenous dexamethasone (16 mg) which should be given as soon as the diagnosis is suspected. Radiotherapy is the standard treatment for spinal cord compression when the spine is stable and death is not imminent. Radiosensitive tumours warrant treatment, even in advanced disease. Surgery should be considered in patients with an unstable spine, in those with progression during radiotherapy, or in recurrences after radiotherapy. An anterior approach, in which the diseased vertebral body is removed and the spine stabilized, gives better results than simple laminectomy. Following successful surgery, radiotherapy should be considered to control local symptoms (e.g. pain) and prevent recurrence.

Long-term nursing care may be needed for patients who become paraplegic. Paraplegia itself is not life-threatening, and continued care at home may be possible in some cases, though a determined family and multidisciplinary support are required. Bowel and bladder problems may be overcome with long-term catheterization and regular use of stimulant suppositories (e.g. bisacodyl). Pressure-relieving mattresses and cushions should be



**Figure 1** This 58-year-old man presented with weak legs and was subsequently found to have a small primary tumour in his lung. As is commonly the case, he did not improve after radiotherapy and corticosteroids, but he was able to continue living at home for several months with an intensive package of home care.

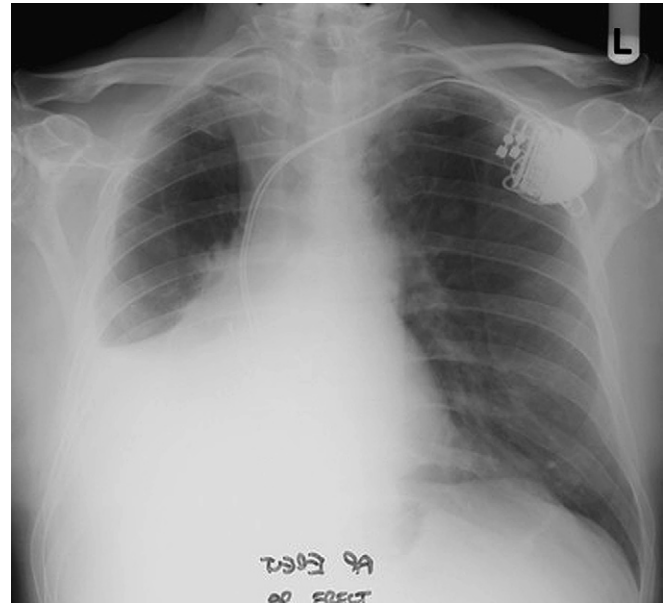
used to avoid pressure sores. Radiotherapy may halt progression of paraplegia, but is usually of little benefit once total motor and sensory loss is established.

### Breathlessness

Breathlessness is a common symptom of advanced cancer and may dominate the patient's life. The underlying physical cause should be sought. Dyspnoea is terrifying for patients, and the cause should not be assumed to be anxiety until all other possible diagnoses have been excluded. Symptoms may be helped by fresh air, nebulized saline, oxygen, breathing exercises, relaxation techniques or oral morphine. In patients who are already taking morphine, increase the daily dose by one-sixth; otherwise, start with 5 mg immediate release morphine 4-hourly.

**Pleural effusion** is common, particularly in patients with lung, breast, ovarian or gastric carcinoma (Figure 2). Clinical examination should detect effusions of more than 500 ml, but an enlarged liver or pleural tumour may give similar clinical findings. Chest radiography confirms the effusion (though ultrasonography is more sensitive, is useful if the effusion is loculated, and can indicate the optimal site to aspirate). Pleural aspiration gives effective symptom control, but recurrence is common and there is a risk of pneumothorax. Pleurodesis with talc or bleomycin is useful in up to 90% of patients with recurrent effusions.<sup>2</sup>

**Pericardial effusion** may not be recognized, but can be a rapidly life-threatening cause of breathlessness. Typically, a patient with lung or breast cancer presents with increasing breathlessness. Examination shows quiet or absent heart sounds with pulsus



**Figure 2** This man was admitted as an emergency with shortness of breath. The chest X-ray shows a pleural effusion with shift of the mediastinum to the right due to lung collapse peripheral to a lung primary. Further secondaries can be seen in the left lung. His symptoms improved with drainage of the fluid but he was not fit enough to consider palliative chemotherapy.

paradoxus and paradoxical changes in jugular venous pressure with respiration. Chest radiography typically shows a globular or boot-shaped heart, and the diagnosis is confirmed by echocardiography. Simple aspiration of the effusion is effective under ultrasound guidance by skilled operators. Prevention of recurrence should be considered. Balloon pericardotomy is as effective as more invasive methods and is probably preferable to leaving a drain in place or surgically cutting a window in the pericardium. Chemotherapy should also be considered, particularly in patients with breast cancer, because the rate of effusion production may decrease as the tumour responds. Treated patients may live for several weeks or months.

**Pulmonary embolism:** patients with advanced cancer have multiple risk factors for venous thrombosis (postoperative state, immobility, hypercoagulation as a result of malignancy) and hence pulmonary embolism. Massive pulmonary embolism is a common cause of sudden deterioration and death. Sedation, pain relief and oxygen may help to relieve distress. Multiple smaller emboli may cause slowly increasing breathlessness and are harder to diagnose. Examination and chest radiography are usually normal; there may be no clinical signs of thrombosis, and the diagnosis may be confirmed only after ventilation-perfusion (V/Q) scanning or CT pulmonary arteriography (Figure 3). A high level of suspicion is required to recognize these patients. Anticoagulation is often effective in relieving dyspnoea, but its benefits must be weighed against the risks of haemorrhage. Anticoagulant control can be particularly difficult because patients may have liver disease and/or paraneoplastic hypercoagulopathy. Low molecular weight heparin may be used when anticoagulant control with warfarin is difficult.

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