1. Major haemorrhage
2. Terminal events in MND
3. Choking
4. Spinal cord compression
5. Superior vena cava obstruction
6. Hypercalcaemia

Janet age 67

- Metastatic carcinoma of rectum
- 2 months ago metastasis in left groin
- Now deep necrotic area bleeds periodically
- Wants to stay at home
- Not aware of possible massive bleed

- What can you do medically?
- What preparations should be made?
- Would you discuss possible events with Janet and her family?

“Just in Case” drugs for a major bleed (3 votes)

1. Morphine 10mg IM / SC
2. Oramorph 5mg PO
3. Midazolam 10mg IM / SC
4. Midazolam 10mg buccal
5. Lorazepam 1mg S/L
6. Diazepam 10mg PO

1) Haemorrhage

Risk factors

- Tumour location
    - GI haemorrhage most common
    - Lung neoplasms - haemoptysis
    - Head & neck cancers
    - Urinary and Gynae. cancers
    - Inguinal nodes
- Haematological malignancies / low platelets
- NSAIDs / Steroids / Anticoagulants
- Liver failure
- Radiation necrosis

1) Non - catastrophic haemorrhage management

- **Local Measures**
  - **Direct pressure / pressure dressings**
  - **Adrenaline 1:1000 soaked gauze**
- **Systemic Measures**
  - **Tranexamic acid 1g tds**
  - **Radiotherapy**
  - **Interventional radiology: embolic measures**

1) Catastrophic haemorrhage management

Anticipate

- **– Advance care planning**
- **– Is resuscitation / admission appropriate?**

“Just in case” drugs.

Aim = rapid sedation

- **- Midazolam 5 – 10 mg IV / IM / SC / buccal**
- **- Diazepam 10 - 20 mg Rectal**

Betty age 65

- MND 6 months ago
- PEG tube feeding but does tolerate small amounts of soft food
- Poor sleep, breathless on exertion
- Drooling and choking on saliva
- Now asking '*Will I choke to death*?'

- What can be done medically?
- Do MND patients choke to death?

“Just in case” drugs for terminal event in MND (3 votes)

1. Midazolam 10 mg SC/IM 20 mins prn
2. Lorazepam 1 mg S/L hourly prn
3. Diazepam 10 mg PO hourly prn
4. Morphine 10 mg SC / IM hourly prn
5. Glycopyrronium 400 micrograms S/C prn

Do MND patients choke to death?

Telephone interview with 121 carers present at moment of death and most of previous 24 hours.

- **88% "died peacefully"**
- **0% choked to death**

- **82% died respiratory failure, hypercapnic coma**
- **7% sudden deaths (cardiac event?)**

72% rapid deterioration and death within 24 hours
27% alert and communicating 5 mins before death
62% asleep when died
11% comatose when died

Neudart C, Oliver D et al. J Neurol (2001): 248; 612 - 616

Do MND patients choke to death?

No patients choked to death

“The natural course of the terminal phase in MND is generally, albeit not uniformly, a peaceful one”

2) Choking

Obstruction of pharynx, larynx or trachea
Usually due to swallowing problems
- **CVA**
- **Cancers in mouth, tongue , pharynx**

Plan ahead:
- **– resuscitation / admission / ventilation?**
- **– sedation & terminal care?**

Repeated episodes: Glycopyrronium SC / IM

Close to end of life: Midazolam SC / IM

Reg age 78

- Ca prostate 5 years, Zoladex, PSA stable 6m ago
- Urinary retention and 3 days of confusion.
- Previously independent, driving the farm tractor.
- Bloods and catheterisation
- Catheter drained 800mls bloodstained urine, dipstick protein ++, leucocytes ++, RBCs +++.
- C&E: Na 134, K 4.2, Ur 20, Cr 350
- FBC: Hb 122, WCC 18.9, Neut 15.2, Plt 142

Reg, age 78 (part 2)

Reviewed 48 hrs later

Confusion resolved

Low back pain, constant, aching, started 2/52 ago

Not able to mobilise beyond bed to chair transfers

Constipated for 10/7

Still catheterised, urine now clear

Renal function returning to normal

- **What must be ruled out?**
- **What investigations would you request?**

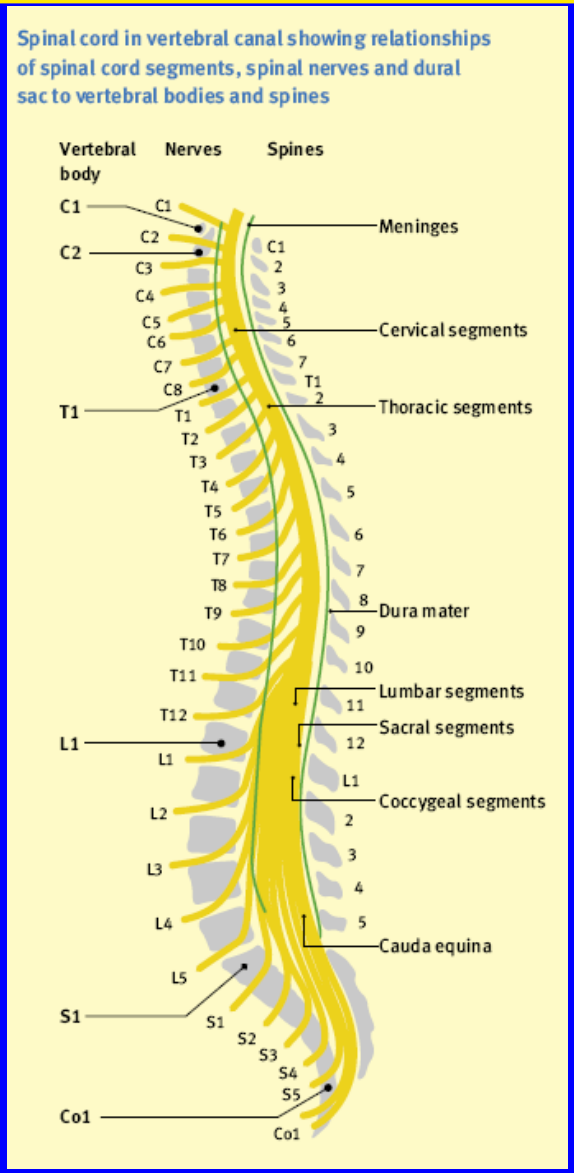
Key symptoms and signs in Spinal Cord Compression (3 votes)

1. Reduced power in limbs
2. Normal sensation in limbs
3. Reduced anal tone
4. Urinary retention / constipation
5. Normal perineal sensation
6. Pain not a feature

4) Spinal Cord Compression

- **Presenting features**
  - **Known malignancy**
  - **Back pain – progressive / unremitting**
  - **Radicular pain in 80%**
  - **Limb weakness – difficulty walking**
  - **Sensory loss – saddle anaesthesia**
    – sensory level
    – radicular loss
  - **Bowel & bladder – retention / incontinence**

4) SCC: anatomy



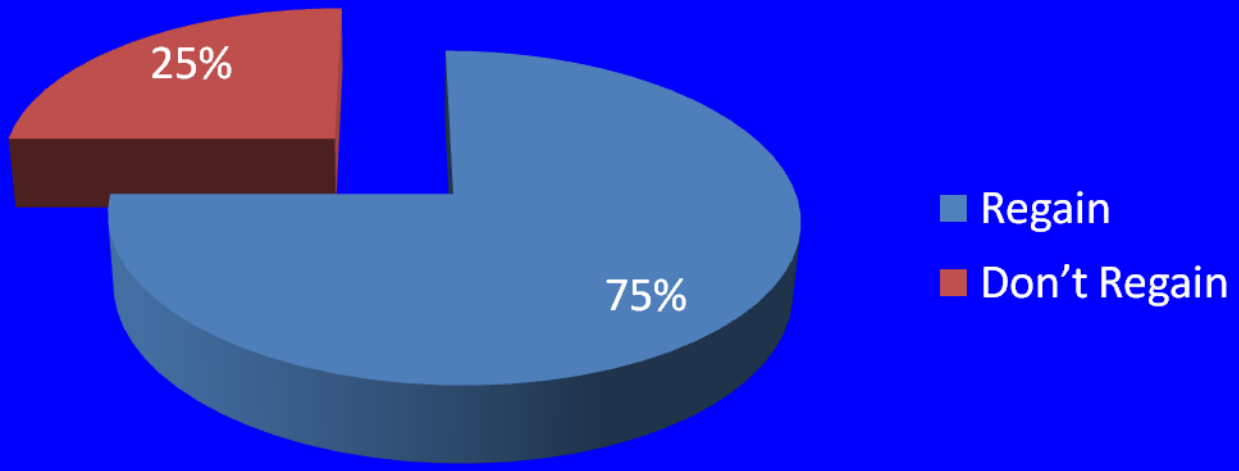
Site frequency

- Cervical 10%
- Thoracic 70%
- Lumbar 20%

4) SCC: radiology

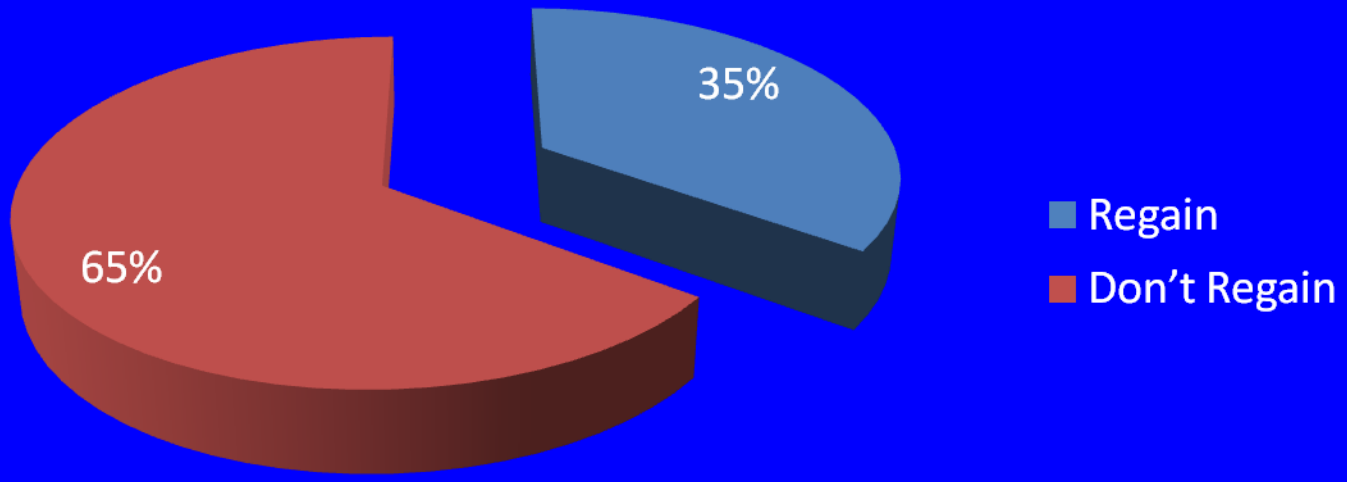
4) Spinal Cord Compression

Ambulatory at the start of treatment → Palliative Radiotherapy → 75% will retain their ability to walk



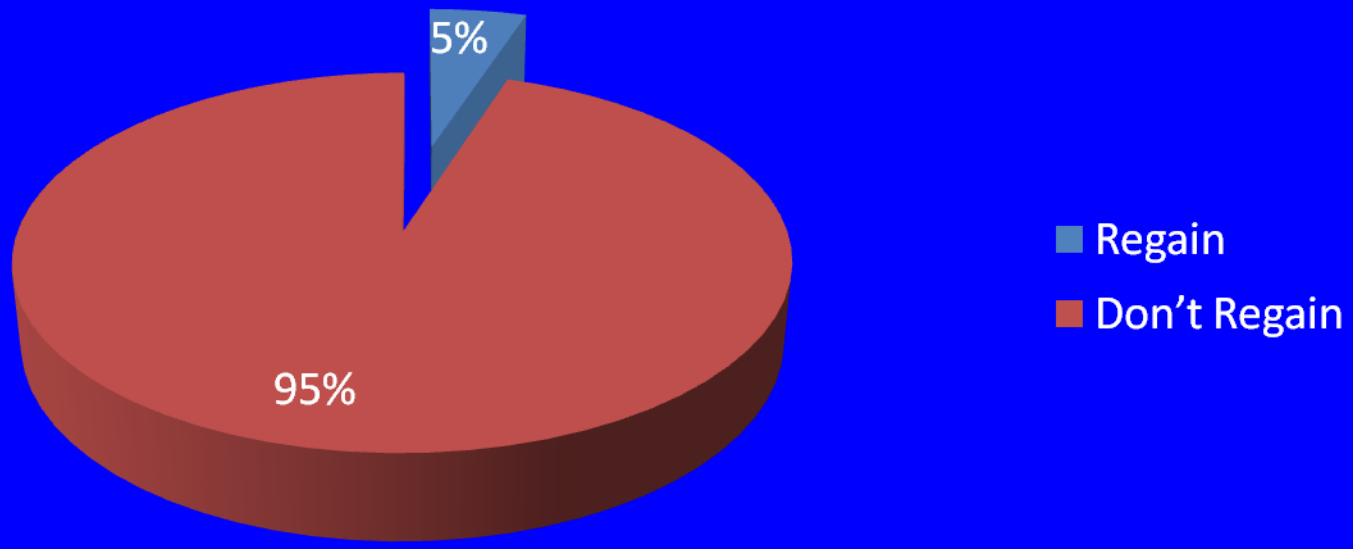
4) Spinal Cord Compression

Paraparetic at start of treatment → Palliative Radiotherapy → 35% regain their ability to walk



4) Spinal Cord Compression

Paraplegic at start of treatment. → Palliative Radiotherapy. → 5% regain their ability to walk.



4) SCC: investigation

Urgent same day MRI scan if:

- **Still movement in legs (ambulatory / paraparetic)**
- **Symptoms / signs changing rapidly**
- **RT can be same day as MRI**

Investigation lower priority if paraplegic

<u>DO NOT</u> investigate / transfer patients too frail or unfit for treatment

4) SCC: management

Steroids 16mg dexamethasone / day

Radiotherapy given to most patients

Surgery considered:

- **Progression after radiotherapy.**
- **Bone collapse – stabilise spine.**
- **Single site.**
- **Fit patient (life expectancy several months)**

4) SCC: supportive management

- Pressure area care
- Bowels – suppositories
- Urinary catheter
- Psychological support
- Physiotherapy (retain function, prevent contractures)
- Discharge planning

Symptoms & signs of Superior Vena Cava Obstruction (3 votes)

1. No headaches
2. Swelling of face / neck / arms / chest
3. Breathlessness
4. Reduced chest expansion
5. Prominent collateral vessels

5) Superior Vena Cava Obstruction

97% due to cancer (lung 80%, lymphoma 15%)
Occurs in 5-10% of all lung cancer patients

Symptoms and signs:

- **Swelling of the face, neck, arms/chest**
- **Breathlessness (50-80%)**
- **Collateral vessels**
- **Facial oedema & plethora**
- **Cough**
- **Lethargy**
- **Headaches**

5) SVCO – management

- Refer urgently to Oncology
- Dexamethasone 16 mg daily
- Chemotherapy: Small cell Ca lung / lymphoma
- Radiotherapy: NSC Ca lung
- Consider SVC stent

Palliation:

- Opioids
- Benzodiazepines
- Corticosteroids
- Oxygen

Sarah age 51

- Breast cancer 6 years
- Bone and liver metastases 2 years
- Palliative chemo finished 4 weeks ago; poorly tolerated and disease progressing
- Daughter's wedding in 10 days
- Deterioration over 3 days – drowsy & sleepy
- Nausea, vomiting, dehydrated

What is the differential diagnosis?

Hypercalcaemia symptoms (3 votes)

1. Nausea / vomiting
2. Itching
3. Thirst and polyuria
4. Constipation
5. Diarrhoea
6. Insomnia

6) Hypercalcaemia

Symptoms

General: fatigue, dehydration, polyuria, polydipsia

Neurological: confusion, drowsiness, coma

GI: anorexia, nausea, vomiting, constipation

6) Hypercalcaemia

Malignancies most frequently associated with hypercalcaemia

- **Breast**
- **Myeloma**
- **Renal cell**
- **Squamous cell tumours – esp bronchus**
- **Lymphoma**

- **10-20% of cancer patients**
- **Median survival 30 days**
- **20% no evidence of bone metastases**

6) Hypercalcaemia: causes

1) PTHrP leading to:

   a) Increased osteoclast proliferation & activity

   b) Increased tubular calcium reabsorption

2) Osteolysis by tumour bony deposits

6) Hypercalcaemia

Management:

- Bloods: Corrected Calcium >2.6mmol/l

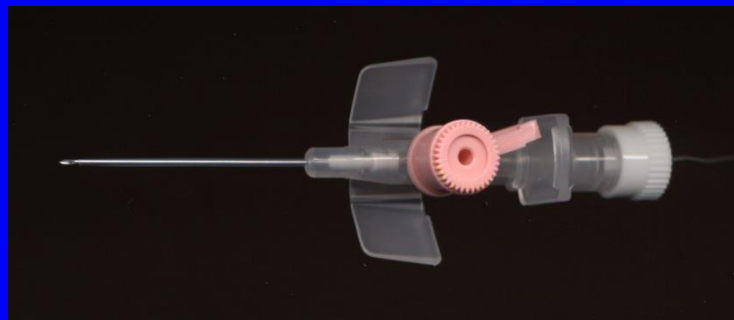
- **Mild**
  - Corr. Ca. ≤3.0mmol/l
  - Treat only if symptoms (usually symptom free)

- **Severe** (>3.0mmol/l)
  - Treatment recommended unless v. near to death
  - May reduce distressing symptoms
  - End stage less traumatic

6) Hypercalcaemia

Management:

- Rehydrate with N Saline 0.9%
- Bisphosphonates
- Rx underlying malignancy
- Check Ca^{2+} 3/52
- Improvement in 1/52



6) Hypercalcaemia

Management

- Is treatment is appropriate?
  - ?? In the terminal stage?
- Discuss wishes

If for treatment

- IV Fluids
- IV Bisphosphonates
- ?? prophylaxis with IV bisphosphonates

Able to attend wedding and enjoy the day

A few days later drowsy and bedbound

- **What are your management options?**
- **What do you need to consider?**

Emergencies: summary

- What is the problem?
  - Keep an open mind
- Can it be reversed?
- What effect will reversal have on patient's overall condition?
- What is your medical judgment?
- What does the patient want?
- What do the carers want?
- Could treatment maintain or improve this patient's quality of life?