Developing spinal cord compression care guidelines at WPH

Spinal cord compression team:
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Aim of the project

* Review the current care of patients with spinal cord compression
* Identify areas for improvement
* Develop guidelines and practice for improving care
* Implement guidelines
* Review implementation

* This presentation focuses on the process for reviewing care and some of the findings that have lead to us developing improvements in practice
Spinal cord compression group established in 2006

Multi-professional group

- nursing, physiotherapy, pharmacy, DN liaison, social work, palliative care, dietetics, doctors, therapy radiography, occupational therapy

Key topics for review were identified reflecting the perspectives of the group members

- Radiotherapy treatment pathway
- Mobility pre and post treatment
- Steroids and thrombo-prophylaxis
- Bowel and bladder management
- Patients priorities and concerns
- Rehabilitation and discharge planning
- Supporting early detection
Multi-stage project

Questionnaire

* to nursing and medical staff to evaluate current practice, gain their perspectives

Retrospective audit to identify problems and provide a benchmark to evaluate care

Prospective audit to evaluate implementation of care

Interest groups were established to develop guidelines for specific aspects of care

* Most aspects crossed multidisciplinary boundaries but special interests were identified
Methods

* Questionnaire to medical and nursing staff
* Retrospective audit of case notes
  * 50 patients who had received radiotherapy for SCC between July 2005 and June 2006
* Prospective audit
  * 30 patients who had received radiotherapy for SCC between January 2009 and July 2010
* Re-audit – 2015/6
  * 20 patients admitted to WPH for radiotherapy
Contextual data from the audit

Brief overview to give a flavour of patients and their care needs......
Diagnosis

- Prostate
- Breast
- Unknown primary
- Lung
- Colorectal
- Other

Audit 1
Audit 2

Audit 1: [Prostate], [Breast], [Unknown primary], [Lung], [Colorectal], [Other]
Audit 2: [Prostate], [Breast], [Unknown primary], [Lung], [Colorectal], [Other]
Age at diagnosis

80% aged over 60, mean age 68. Male 59, Female 21
<table>
<thead>
<tr>
<th>Location</th>
<th>Audit 1 (%)</th>
<th>Audit 2 (%)</th>
<th>Audit 3 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chesterfield</td>
<td>8 (16%)</td>
<td>7 (23%)</td>
<td>3 (15%)</td>
</tr>
<tr>
<td>Bassetlaw</td>
<td>5 (10%)</td>
<td>4 (13%)</td>
<td>-</td>
</tr>
<tr>
<td>Doncaster</td>
<td>7 (14%)</td>
<td>5 (17%)</td>
<td>4 (20%)</td>
</tr>
<tr>
<td>Rotherham</td>
<td>4 (8%)</td>
<td>2 (7%)</td>
<td>4 (20%)</td>
</tr>
<tr>
<td>Barnsley</td>
<td>5 (10%)</td>
<td>4 (13%)</td>
<td>1 (5%)</td>
</tr>
<tr>
<td>Sheffield</td>
<td>14 (28%)</td>
<td>6 (20%)</td>
<td>4 (20%)</td>
</tr>
<tr>
<td>Other</td>
<td>7 (14%)</td>
<td>0</td>
<td>4 (20%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>30</strong></td>
<td><strong>20</strong></td>
</tr>
</tbody>
</table>
Duration of admission

- Audit 1, range 6 to 48 days, mean 13.1
- Audit 2, range 5 to 58 days, mean 17
- Audit 3, range 7 to 33, mean 16.5
Discharge location

- Hospice
- Repatriated
- Own home
- Died before discharge

Audit 1
Audit 2
Audit 3
**Survival post SCC diagnosis**

- Number of days from admission with spinal cord compression to death
  - Audit 1 - 45 patients had a date of death documented
    - Range = 2 days to 319 days, Mean = 58.6 days
  - Audit 2 - 22 had a date of death documented
    - Range = 10 days to 448 days, Mean 115 days
  - Audit 3 – 8 had died by the time of the audit
    - Range 11-88, mean 32.5
<table>
<thead>
<tr>
<th>Symptom</th>
<th>On admission Audit 1/Audit 2 (%overall)</th>
<th>At discharge Audit 1/Audit2 (%overall)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unable (wheelchair)</td>
<td>20/18/ 9 (47%)</td>
<td>25/18/11 (56%)</td>
</tr>
<tr>
<td>Assistance/supervision</td>
<td>17/6/2 (25%)</td>
<td>5/2/1 (8%)</td>
</tr>
<tr>
<td>Independent</td>
<td>13/6/ 9 (28%)</td>
<td>10/7/7 (25%)</td>
</tr>
<tr>
<td>Died before time point</td>
<td>-</td>
<td>7/3/1 (11%)</td>
</tr>
<tr>
<td>Missing data</td>
<td>-</td>
<td>3/0/0</td>
</tr>
</tbody>
</table>
Bladder symptoms on admission

<table>
<thead>
<tr>
<th>Condition</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catheterised</td>
<td>24/14/10</td>
</tr>
<tr>
<td>Incontinence</td>
<td>7/4/2</td>
</tr>
<tr>
<td>No problems</td>
<td>18/12/8</td>
</tr>
</tbody>
</table>
### Bowel problems and SCC

<table>
<thead>
<tr>
<th></th>
<th>Incidence on admission</th>
<th>Incidence at discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Constipation</strong></td>
<td>26/14/4 (44%)</td>
<td>18/5/1 (25%)</td>
</tr>
<tr>
<td><strong>Incontinence</strong></td>
<td>6/6/5 (17%)</td>
<td>7/4/7 (18%)</td>
</tr>
<tr>
<td><strong>No problems</strong></td>
<td>16/10/11 (37%)</td>
<td>17/16/11 (45%)</td>
</tr>
<tr>
<td><strong>Died before discharge</strong></td>
<td>-</td>
<td>7/3/1 (11%)</td>
</tr>
</tbody>
</table>
Pressure area concerns – 21
Chest infection – 16
UTI/catheter malfunction – 15
Oral problems e.g. thrush, sore mouth – 10
Confusion – 9
Pain – 11
Dehydration – 3
Fall – 2

Number of complications per patient
0 = 15  1 = 25  2 = 11  3 = 13  4 = 5
Findings in relation to mobility and bowel management
Mobility

* Traditional practice of flat bed rest
  * However, is it only indicated in spinal instability and poor pain control
* 75% of doctors said they did not recommend that patients were routinely on bed rest
* 69% of nurses said patients were routinely commenced on flat bed rest for the duration of their treatment
* Audit 1 found that 88% of patients were on flat bed rest for all of their treatment
  * 16% had a reason for bed rest documented in the notes
  * 10% had spinal stability assessment documented
Audit 2 found improved evidence of individualised care.

67.5% of patients received care according to mobility guidelines.

32.5% did not receive care that followed the guidelines.

- Most common reason was organisation factors
  - e.g. communication lapses between the MDT or waiting for physiotherapy assessment

Audit 3 found 85% compliance

- Getting closer!
81% of nurses felt bowel management was not effective. Shortfalls in documentation and practice were found in both audits:

- Assessment within 48 hours: 68% audit 1, 70% audit 2, 65% audit 3
- Daily documentation of bowel actions: 56% audit 1, 58% audit 2, 15% audit 3
- Evidence of bowel management regimen: 26% audit 1, 63% audit 2, 65% audit 3
Potential bowel problems include:
- changes in sensation,
- urgency,
- constipation
- faecal incontinence

In many cases the type of bowel problem is related to the site and the extent of the compression

There are three main types of bowel problem that can arise from SCC
More likely in SCC in C1 to C7, T1 to T12
Reflex functions of the rectum are preserved but sensation and voluntary control are absent
  * little or no awareness of bowel fullness
  * unable to initiate or inhibit defecation
  * incontinence and constipation are common
The intact reflexes can be used in bowel management through mechanical (digital) and/or chemical (suppositories/enemas) stimulation
More likely when SCC occurs in L1 to S5
reflex pathways have also been disrupted so the bowel will not respond to mechanical or chemical stimulation
Flaccid bowel can be diagnosed by digital rectal examination
  if there is no tone or tightening when a finger is inserted and sphincter control is absent this is suggestive of flaccid dysfunction
Digital rectal evacuation of faeces may be required for bowel management in flaccid neurogenic dysfunction
Mixed neurogenic bowel dysfunction

- More common for patients with SCC
- Many patients with SCC do not have complete compression and are likely to have varying degrees of sensation and/or control
- The impact of SCC on bowel function needs to be assessed for each patient as it can vary greatly depending on the site and extent of the compression
The aims are for the patient to have a regular, time managed bowel motion that is convenient for both the patient and carer.

- Bowel management episodes in SCC can be so prolonged as to have a negative impact on quality of life.

Other important considerations include:

- achieving continence
- ensuring that approaches used are appropriate to the patients level of mobility
History of previous bowel function and changes since SCC

If the patient has not had a bowel action in the past 3 days, or has had problems suggestive of constipation or constipation overflow then consider a digital rectal examination

Determine the patients bowel symptoms
  * flaccid, reflex or mixed neurogenic bowel

Determine type of stool against Bristol stool chart criteria
  * Optimum 3-4 (high is loose!)
Bristol stool chart
Assess type of stool against Bristol stool chart

- The optimum stool is between 3-4
- If stool is hard consider the following
  - Review diet and fluids
    - increase fluid intake and dietary fibre
  - Review medications
- Consider and treat reversible causes e.g. hypercalcaemia, dehydration, lack of privacy
- If stool is too hard to pass/remove consider using glycerine suppositories as part of rectal bowel management
If stool is too soft (stool 5-7) consider the following

- Assess for constipation.
  - Loose watery stool may be constipation overflow from faecal impaction.
- Exclude the possibility of infective cause
- Review diet and fluids
- Review medication
- If infective cause is ruled out then consider anti-diarrhoeal medication e.g. loperamide
  - Titrate until Bristol 3-4 is achieved.
Some patients with spinal cord compression experience faecal incontinence

Step one: Implement measures above

Develop individual bowel care management regimen

We need to develop guidance for faecal incontinence

* Based on community guidelines
Monitor and document effect of bowel interventions

- Documentation enables
  - the development of an appropriate regime of bowel management for the individual patient
  - continual assessment of the effectiveness of this regime
  - the early identification of potential life threatening complications including faecal impaction, bowel obstruction, bowel perforation and autonomic dysreflexia

- Some patients will require regular intervention from a nurse/carer in order to evacuate their bowel.
  - develop a programme of bowel management with planned interventions
Autonomic dysreflexia

* An uncontrolled reflex response to a noxious stimulus such as an over distended bladder or bowel

* Symptoms include:
  * severe headache, nausea, bradycardia, respiratory distress, elevated BP
  * If untreated increased BP can lead to a cerebro-vascular incident

* Treatment
  * Promptly remove the noxious stimuli i.e. emptying bowel or bladder
  * In bowel distension the cause is often the presence of a large mass of constipated stool
  * Autonomic dysreflexia can also occur during bowel management interventions such as digital removal of faeces

  * nurses carrying out this procedure need to be aware of the signs and appropriate action.
Discharge and rehabilitation

- Mobility and rehabilitation
  - Essentials of early care
- Appropriate discharge location
- MDT and discharge planning
  - Can be complex
What has the project achieved to date?

- Provided a good foundation for reviewing care
- Highlighted the need to standardise care according to best practice
  - discrepancies between presumed practice and actual care
  - patterns in practice that are useful starting places for developing protocols and guidelines (e.g. steroids)
- Identified the need for improvements in care
- Provided a process for evaluation
- Identified some good practice!
Outcomes from the project

* Guidelines
  * Mobility
  * Steroids and PPI’s
  * Thrombo-prophylaxis
  * Bowel management
* SCC care pathway
* Education initiatives
  * This is one of them!
* Patient information for early detection
* Research projects - patients experiences of SCC