Rehabilitation and Metastatic Spinal Cord Compression

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Evidence for Rehabilitation

Differences and similarities between traumatic spinal cord injury and metastatic spinal cord compression

Models of rehabilitation

Problems in the UK

Role of commissioning and pathways
Does Rehabilitation Help?

What is the evidence?

• Very limited evidence

• Very limited / absent data from the UK

• 11 papers from the rehabilitation arena on the topic internationally (Fattal et al, Arch Phys Med Rehab, Jan 2011)

• Most of the literature is retrospective

• Reflection of different or absent models for rehabilitation of this group across the world and lack of standardised definitions for reporting
Rehabilitation Themes

• McKinley and colleagues - (1996,1999,2000)

Conclusions: Patients with neoplastic spinal cord compression have different demographic and injury characteristics but can achieve comparable rates of functional gains as their traumatic spinal cord injury counterparts. Although patients with traumatic injuries achieve greater functional improvement, patients with neoplasms have a shorter rehabilitation length of stay and comparable FIM efficiencies and home discharge rates.

Conclusions: Patients with neoplastic SCC can achieve rates of functional gain comparable to those of their counterparts with traumatic SCI. While patients with traumatic SCI achieve greater functional improvement, patients with neoplastic SCC have a shorter rehabilitation LOS and can achieve comparable success with discharge to the community.

Rehabilitation Themes

• Ruff and colleagues (2007) - 2 small groups of patients who received rehabilitation and who did not respectively –

• Patients who received rehabilitation not only lived longer but had also better quality of life for the remainder of their lives.

• 2 week targeted programme

( Ruff et al. Journal of rehabilitation research and development Vol 44, Number 1, 2007; pp 1-10)
Epidural metastatic spinal cord compression: functional outcome and survival after inpatient rehabilitation

IE Eriks*¹, ELD Angenot¹ and GJ Lankhorst²


Eriks and colleagues (2004) – Dutch study

10 year review of all patients admitted with metastatic SCC to Dutch SIC.

131 patients.

Average LOS – 104 days

Patients with metastatic SCC may benefit from inpatient rehabilitation

Metastatic paraplegia: care management characteristics within a rehabilitation center

C Fattal¹, D Gault², C Leblond³, D Gosens⁴, F Schindler¹, H Rouays-Mabit¹, M Fehro³ and L Bauchet⁴

Spinal Cord (2009) 47, 115–121

Compared to the patients’ life expectancy, their stay in a rehabilitation centre is too long and prevents them from spending time with family and loved ones. The occurrence rate of the associated symptoms is high because of both cancer-related disorders and neurological disorders caused by the spinal cord lesion. PM&R professionals are faced with patients affected by chronic pain and fatigue as well as frequent rehospitalisation, short stays and outpatient stays, in the primary oncology unit. This study focuses on the need to privilege the patients’ comfort over their functional rehabilitation.
### Table – Effect of Pain

| Pain issues documented during admission | n  | %    | Tumour type | SCI  \\n|----------------------------------------|----|------|-------------|------\
|                                        | n  |      | Primary     | Secondary | Incomplete | Complete |
| Pain adverse impact on rehabilitation   | 56 | 51.9 | 19          | 37      | 16         | 31       |
| Nociceptive pain impact on rehabilitation | 23 | 21.3 | 6           | 17      | 7          | 13       |
| Neuropathic pain impact on rehabilitation | 15 | 13.9 | 2           | 13      | 5          | 7        |
|                                        | 7  | 6.5  | 3           | 4       | 2          | 5        |
| Pain type                              |    |      |             |         |            |          |
| Nociceptive                            | 44 | 40.7 | 10          | 34      | 14         | 23       |
| Neuropathic                            | 13 | 12.0 | 8           | 5       | 2          | 9        |
| Pain medications                       |    |      |             |         |            |          |
| Simple analgesics                      | 36 | 33.3 | 9           | 27      | 12         | 23       |
| NSAIDs                                 | 23 | 21.3 | 7           | 16      | 6          | 14       |
| Anti-epileptics                        | 10 | 9.3  | 5           | 5       | 1          | 7        |
| TCAs                                   | 8  | 7.4  | 7           | 3       | 1          | 5        |
| Tramadol                               | 6  | 5.6  | 3           | 3       | 0          | 5        |
| Opiates                                | 44 | 40.7 | 12          | 32      | 13         | 23       |
| Intrathecal pump                       | 1  | 0.9  | 1           | 0       | 0          | 0        |

**Sheffield Experience**

- **Anecdotal**
- **In carefully selected patients, significantly improved outcomes**
- **Works best when the time period for admission is defined and discharge arrangements are in place**
- **There is a tendency for discharge to be delayed once patients are transferred to a rehabilitation unit as some of the urgency is lost because patients are now considered to be in a safe environment**
Traumatic SCI Vs Metastatic SCI

More paraplegics than tetraplegics
More incomplete injuries
Historically older population
Greater comorbidities
Suffering from the effects of primary tumour and treatments for it such as radiotherapy / chemotherapy
However the impact and the functional and medical consequences of the spinal cord dysfunction are the same irrespective of the cause. Proportional to level and completeness.

Traumatic SCI – Issues to be addressed

• Autonomic and CVS problems
• DVT
• Respiratory management
• Endocrine and electrolyte management
• Neurogenic bladder
• Pressure ulcers
• Spasticity
• Immune alterations
• Heterotopic ossification
• Neuromuscular complications
• Vocational aspects
• Sexual function and fertility
• Bowel management
• Bladder management
• Pain
• Problems of ageing
• Psychological rehabilitation etc.
• Long term follow up
• Vocational / educational rehabilitation

• Mobilisation
• Wheel chair skills
• Prevention of osteoporosis etc.
• Syringomyelia

Birmingham Nov 11
Core Areas Vs Desirable Skills

Address the key areas that can make a difference to the individuals quality of life

Bladder and bowel management, prevention of pressure ulcers, pain and spasticity management, basic seating etc.

Education and peer support
Balance between rehabilitation and getting the individual back to his home environment

Factors Affecting Prognosis

- Type of primary tumour
- Functional and neurological status
- Interval between diagnosis of primary tumour and MSCC
- Role of primary treatment, multiple metastasis less clear
Current UK Scenario

- Unsatisfactory
- Any rehabilitation that is offered is on an ad hoc basis. The vast majority of patients with MSCC do not get a look in.
- Different SCI units have different criteria
- The commissioning arrangements for SCI centres specifically exclude progressive causes of SCI such as MSCC
- Very poor data

Limitations

SCI centres have the expertise to manage many aspects of the medium and long term problems these patients experience.

However currently there is a problem with capacity as most SCI centres have waiting lists even for traumatic SCI patients.
Limitations

Related to difficulties in discharging patients back into the community

The current model of rehabilitation with an emphasis on achieving optimal functional capability is not suited to the MSCC group

What is the model that is likely to work?

- National strategy, modelled along the lines of national spinal cord injury pathway
- Model predicated on getting the core areas right
- Good outreach and liaison work for all patients from SCI centres in conjunction with oncology / surgical /palliative care units
- Development of skills locally at oncology, palliative care and surgical units—modelled on the SCI link worker scheme
- Stratification of patients based on prognosis
What is the model that is likely to work?

- Short defined admission to SCI units for people with reasonable prognosis (?) not to existing wards.
- Mixing traumatic and progressive SCI patients on SCI wards is likely to result in a dilution of care/rehabilitation for both groups.
- In those with poor prognosis close working with palliative care locally to achieve limited key objectives designed to enhance QOL.

Rehabilitation in MSICC

- Patient With Metastatic Spinal Cord Compression
  - Poor prognosis
    - Managed locally / input from outreach team
  - Moderate prognosis (few months life expectancy)
  - Good prognosis (More than 6 months life expectancy)
    - Inpatient rehabilitation for a short period with defined objectives and discharge arrangements in place
    - Outpatient / liaison support / education as required
Resource Implications

• Adequate resourcing to support such a pathway
• Patient numbers
• Creation of treatment capacity
• Facilitation of discharge

Conclusion

Rehabilitation input can be effective and can positively impact on QOL / incidence of complications

Model of rehabilitation for MSCC related SCI has to be different from that for traumatic SCI

Currently no such model exists and there is no resourcing for it

A national pathway with appropriate resourcing is required
Thank You