Dual Diagnosis
Severe Traumatic Brain Injury and
Spinal Cord Injury

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Background

Dual Diagnosis

Traumatic Brain Injury (TBI) complicating Spinal Cord Injury (SCI) at Moorong Spinal Unit (SIU), Royal Rehabilitation Centre- Sydney (RRCS), July 2000 to June 2005 (5 years)
Dual Diagnosis

- Retrospective review of medical records on all admissions to the SIU RRCS between 1st July 2000 to 30th June 2005.

- Data obtained from clients with a documented TBI
  - Demographics
  - Injury related details
  - Severity of TBI
  - Outcomes
Results

- 263 admissions over 5 years
- 187 recent SCI
- 42 (22.5%) with Dual Diagnosis
- 15 (35.7%) notable changes on Brain imaging
- Main causes of injury
  - MBA 13 (31%)
  - MVA 9 (21%)
  - Falls 9 (21%)
Spinal Cord Injury Level

- C1-8
- T1-6
- T7-12
Severity Of TBI

- Mild (GCS 12-15/ PTA <24hrs) 25 (59%)
- Moderate (GCS 9-11/ PTA 1-7 days) 2 (5%)
- Severe (GCS 3-8/ PTA 1 week- 1 month) 7 (17%)
- Very Severe (GCS 3-8/ PTA > 1 month) 8 (19%)
Severe TBI complicating SCI
Post Discharge Questionnaire

- Clients with Severe TBI/SCI admitted to RRCS between July 2000 and June 2005

- At time of survey clients were one and a half to four and a half years post discharge

- 25 questions

- Questions - Discharge destination
  - Bladder, Bowel, Skin
  - Neuropathic pain, Spasticity
  - Rehospitalisation
  - Mood, Memory
  - Return to work/driving

- Telephone/Outpatient clinic contact and medical records
Objectives

- To Identify
  mainly health related outcomes

- To improve
  inpatient and outpatient management
  discharge planning
  secondary prevention
  staff and client awareness and education
Results

- 15 with Severe TBI

- Demographics

  12 males

  Majority (60%) between 30-49 yrs

  Level of injury- Cervical 5 (ASIA D- 4)
  Thoracic 10 (ASIA A- 8)
  4 were ambulant

  LOS- >6 months -8, 3-6 months - 3, < 3 months 4
11 participants in this survey
  2 recently deceased
  2 not contactable

6 telephone interviews
9 (82%) discharged home
6 (55%) changed residence since discharge
4 (36%) receive >16hrs of care/day
  5 received informal support from family
3 (27%) needed increase in care since discharge

Current bladder mx- mostly unchanged
4 (36%) Hx of recurrent UTIs (Average 2.5 per year)
Non with h/o renal calculi
9 (82%) appropriate renal imaging
Results contd.

- 5 (45%) reported problems with constipation/incontinence
- 2 (18%) needed increase in aperients
- 2 (18%) pressure ulcers
- 7 (67%) required re-hospitalisation
  - 1 bladder
  - 1 bowel
  - 2 skin
  - 3 other - ITB/Pain/spinal abscess (5 within first year)
- 4 (36%) increase in neuropathic pain
- 4 (36%) increase in spasticity
Results contd.

- Non with h/o headaches (TBI 30-50%)
- 4 (36%) decrease in mood requiring intervention (TBI 15-24%)
- 4 (36%) new problems with memory
- 3 (27%) relationship breakdown (TBI 38%)
Results contd.

- 6 (54%) returned to work since discharge
  2 left after a few months
  (TBI dropout at 5 yrs – 33%)
  1 retired

- 5 (45%) returned to driving
Discussion

- Diagnosis of TBI difficult at times in clients with SCI, especially mild to moderate TBI.

- PTA/Neuropsychology testing also difficult at times in Dual Diagnosis

- Small numbers in this study therefore unable to make definitive conclusions
  - Recurrent UTIs, headaches, 50% ISC rate amongst Paraplegics were notable findings
  - Bowels, Skin, Psychosocial issues-No significant findings

- Outcomes influenced by many factors
  - Level of injury
  - Extent of TBI
  - Social issues
  - Drug and Alcohol
  - Pre-injury status
Case Discussion

Mr A
- 29yrs
- GCS 3/15
- PTA 3 months
- T5 ASIA A
- De facto partner
- 3 children
- concreter

Mr B
- 20yrs
- GCS 3/15
- PTA 2 months
- T4 ASIA A
- Single
- Living with parents
- Part time sales
Case Discussion
Neuropsychology testing

Mr A
1. Low average Intellectual function
2. Reduced learning capacity
3. Variable performance with Executive functioning
4. Reduced mental flexibility
5. Intact attention, but easily distractable
6. Anxiety and reduced mood

Mr B
1. Low average to average
2. Reduced
3. Significant problems
4. Reduced
5. Reduced
6. Nil problems
Case Discussion - Outcomes

Mr A
- Separated
- Rental accommodation
- Unemployed
- 2 hospital admissions
- Pressure ulcers
- SPC/failed ISC
- No Neuropathic pain
- Alcohol

Ongoing significant issues

Mr B
- Single
- Living with family
- Employed
- No admissions
- Nil
- ISC/problems
- Neuropathic pain
- Alcohol

Managing well in community
Conclusion

- Care of a person with a Dual Diagnosis is complex requiring knowledge of two major disabilities.

- Due to small numbers further research is necessary across units to understand specific issues in this group and thereby improve management.