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Research Article

A RETROSPECTIVE STUDY OF READMISSION IN ACUTE TRAUMATIC SPINAL CORD INJURY PATIENTS

Arnab Sinha¹ and Rashmi Sharma²

¹Department of Orthopaedics, Hope Hospital, Patna, Bihar

²Department of Physiology, Narayan Medical College, Sasaram, Bihar

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ABSTRACT

Spinal cord injury (SCI) results not only in a devastating change to a person's physical functioning and independence, but predisposes the individual to various secondary medical complications throughout life, which may interfere with health and well-being, social activity, productive employment and quality of life. After the primary treatment and discharge the patient needs to be readmitted for these secondary medical complications. The high costs associated with rehospitalisation after SCI is a matter of concern and should be highlighted. In addition, health care costs and utilisation of services due to medical complications have been shown to increase with age and duration postinjury. The aim of this study was to investigate the frequency and cause of rehospitalisations in individuals with acute traumatic spinal cord injury (ATSCI) living in the community. A retrospective study of case records of 100 patients of spinal cord injury was done to find out the incidence and causes of readmission (for spinal causes) within 1 year of discharge. The data was collected in two parts. The part A was the demographic details and the part B was the causes of readmission. The part B was further divided into genitourinary, gastrointestinal, skin issues, musculoskeletal, psychiatric disorders and others. Those who were admitted more than once and those who were readmitted for more than one category of cause were included as such in the study.

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INTRODUCTION

Spinal cord injury (SCI) results not only in a devastating change to a person's physical functioning and independence, but predisposes the individual to various secondary medical complications throughout life, which may interfere with health and well-being, social activity, productive employment and quality of life. This multisystem dysfunction renders the individual susceptible to a range of related complications and requires lifelong management. After the primary treatment and discharge the patient needs to be readmitted for these secondary medical complications. Elective treatment depends on familiarity with and cumulative experience of spinal cord injury pathophysiology, ie the concentration of expertise constituting a specialised spinal injury unit. Within a fixed number of spinal injury unit beds, priority will almost always be given to accommodating new acute admissions. This means that patients with chronic spinal cord injury who require hospital readmissions are either put on waiting lists or, if urgent, admitted to non-specialised units elsewhere. Reasons frequently cited for readmission to hospital in people with SCI

include urinary tract infection, pneumonia, gastrointestinal problems, pressure sores, pain and spasticity.

The high costs associated with rehospitalisation after SCI is a matter of concern and should be highlighted. In addition, health care costs and utilisation of services due to medical complications have been shown to increase with age and duration postinjury. Researchers have developed models to predict risk of rehospitalisation based on various factors such as level and severity of neurological impairment, time since injury, age, sex, race, marital status and employment, although with a significant amount of variance in regression models remaining unexplained.

Aim

The aim of this study was to investigate the frequency and cause of rehospitalisations in individuals with acute traumatic spinal cord injury (ATSCI) living in the community.

MATERIAL AD METHODS

A retrospective study of case records of 100 patients of spinal cord injury was done to find out the incidence and causes of readmission (for spinal causes) within 1 year of discharge.

*Corresponding author: **Arnab Sinha**

Department of Orthopaedics, Hope Hospital, Patna, Bihar

Exclusion criteria- nontraumatic injuries, age <18years, spinal column injury without neurological deficit, full recovery (ASIA Grade E), admissions for non spinal causes.

The data was collected in two parts. The part A was the demographic details and the part B was the causes of readmission. The part B was further divided into genitourinary, gastrointestinal, skin issues, musculoskeletal, psychiatric disorders and others. Those who were admitted more than once and those who were readmitted for more than one category of cause were included as such in the study.

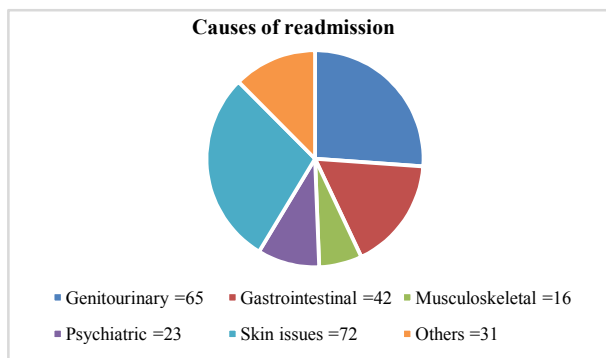
Results-Part A: Demographics

The 100 subjects in this study were predominantly males with tetraplegia was slightly more common than paraplegia, with almost half of the group sustaining complete (ASIA grade A) lesions, with fall from height being the main mode of injury.

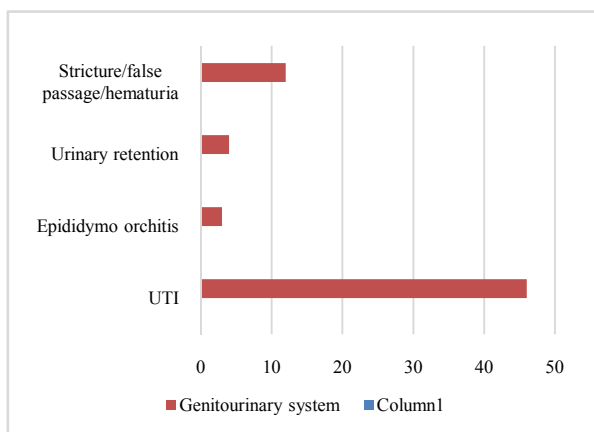
Part B: Causes of readmission

Rehospitalisation was most frequently related to complications of the pressure sores (skin issues), comprising almost three fourth of readmissions, closely followed by Genitourinary cause (65%).

Cause of readmission	Number
Genitourinary	65
Gastrointestinal	42
Musculoskeletal	16
Psychiatric	23
Skin issues	72
Others	31



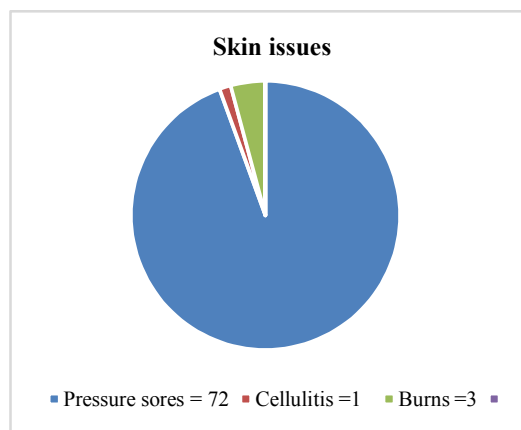
Within the group of genitourinary-related readmissions, after UTI the next most common conditions in descending order of frequency were: urinary retention, urethral stricture/false passage, haematuria and epididymo-orchitis.



Genitourinary causes	Number
Stricture/false passage/hematuria	12
Urinary retention	4
Epididymo orchitis	3
UTI	46

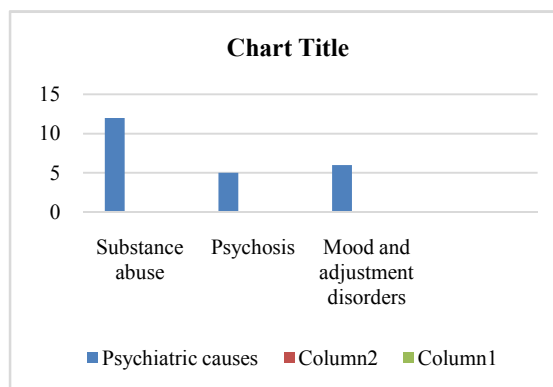
Rehospitalisations for gastrointestinal (GIT)-related causes (39%) most frequently involved pseudobowel obstruction, with bleeding per rectum, anorectal abscess, abdominal pain, nausea, vomiting and flatulence making up the remainder.

Pressure areas contributed to 72% of readmissions. Interestingly, more than half (42 out of 72) of these readmissions occurred in the 18 to 35 year age group. Other skin-related causes of readmission included cellulitis and burns.



Musculoskeletal complaints accounted for 16 % of readmissions with mechanical back or neck pain, pathologic fractures, tendonitis/bursitis, sprains and strains, and spasticity being the causes.

Psychiatric disorders were a common cause of rehospitalisation, resulting in 23% of readmissions. Within this group, substance use disorders were most common, followed by psychoses and mood and adjustment disorders.



The readmissions group “Others” had mostly equipment prescription and fitting and supply (eg wheelchair), closely followed by bladder assessment and retraining, bowel management, occupational therapy and orthosis-assisted gait training.

Other causes	Number
Equipments related	10
Bladder retraining	3
Bowel retraining	1
Occupational therapy	10
Orthosis gait training	7

Limitations of the study – This study is limited by nature of being cross-sectional in design, based on retrospective medical records with a relatively short follow-up period.

CONCLUSION

Identifying rates, causes and patterns of morbidity is important for future resource allocation and targeting preventative measures. In order to meet the needs of the growing SCI population, more specialised spinal injuries care beds are needed. Despite improvements in SCI medical management, rehospitalization rates remain high, with an increased incidence in conditions associated with the genitourinary system (including UTIs) and diseases of the skin (including pressure ulcers). Acutely injured patients need close follow-up to reduce morbidity and rehospitalizations. This information is valuable to health-care providers, consumers and administrators alike, allowing more considered planning of service models and facilities with projections of future care requirements and resource allocation necessary for both the treatment and prevention of secondary complications after SCI.

References

1. Savic G *et al.* Hospital readmissions in people with chronic spinal cord injury. *Spinal Cord*. 2000
2. Middleton J *et al.* Patterns of morbidity and rehospitalisation following spinal cord injury *JWSpinal Cord* (2000)
3. Ivie CS Predicting unplanned hospitalisations in persons with spinal cord injury. *Arch Phys Med Rehabil* 1994
4. Samsa GP Inpatient hospital utilisation among veterans with traumatic spinal cord injury. *Arch Phys Med Rehabil* 1996
5. Whiteneck GG *et al.* Mortality, morbidity and psychosocial outcomes of persons spinal cord injured more than 20 years ago. *Paraplegia* 1992
6. McColl MA *et al.* Expectations of life and health among spinal cord injured adults. *Spinal Cord* 1997
7. Meyers AR *et al.* Rehospitalization and spinal cord injury: cross-sectional survey of adults living independently. *Arch Phys Med Rehabil* 1985
8. Davidoff G *et al.* Re-hospitalisation after initial rehabilitation for acute spinal cord injury: incidence and risk factors. *Arch Phys Med Rehabil* 1990
9. Johnston RL *et al.* Secondary conditions following spinal cord injury in a population-based sample. *Spinal Cord* 1998
10. Anson CA *et al.* Incidence of secondary complications in spinal cord injury. *Int J Rehabil Res* 1996
11. Klotz R *et al.* The Tetrafigap survey on the long-term outcome of tetraplegic spinal cord injured persons: Part III. Medical complications and associated factors. *Spinal Cord* 2002
12. Devivo MJ *et al.* The Economic Impact of Spinal Cord Injury. In: Stover SL, Delisa JA, Whiteneck GC (eds.) *Spinal Cord Injury: Clinical Outcomes from the Model Systems*. Aspen Publications: Gaithersburg, MD, 1995
13. Johnston RL *et al.* Cost of traumatic spinal cord injury in a population-based registry. *Spinal Cord* 1996
14. Menter RR *et al.* Impairment, disability, handicap and medical expenses of persons aging with spinal cord injury. *Paraplegia* 1991
15. Meyers AR *et al.* Predictors of medical care utilization by independently living adults with spinal cord injuries. *Arch Phys Med Rehabil* 1989
16. Stone J *et al.* Chronic gastrointestinal problems in spinal cord injured patients: a prospective analysis. *Am J Gastroenterol* 1990

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