



Six Month Quality of Life of Trauma Patients from A Non- Trauma Regional Hospital in Singapore

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Abstract

Introduction: Trauma is a leading cause of mortality and morbidity in Singapore. In our peripheral hospital we have a large trauma load despite being a non level one trauma center. Whilst we have many studies done in the West documenting the quality of life of trauma victims using scoring systems such as the EQ5DTM and GOSE, there is a paucity of literature from this part of the World.

Methods: We analyzed the results of 6 months of data collected by our trauma coordinator looking specifically at the EQ5DTM and GOSE scores after 6 months of rehabilitation amongst survivors. Phone interviews were conducted with patients or proxies as respondents.

Results: Our scores showed a poor quality of life in 50% of the cohort. An average score of 5-10 was found in 30% of respondents. Only 31% of the patients returned to work, 31% of these were doing the same job as before the trauma and 20% lived in a nursing home. The GOSE (Glasgow outcome score extended) is the most widely used method to describe overall outcome after head injury. Our results showed 63% recovered moderately at 6 months whilst 31% were severely disabled. 20% reported disrupted family relations and only 56% reported resumption of normal life.

Discussion: Further large studies are needed to determine similar scores across Singapore and psycho social interventions required to ensure a better prognosis and outcome.

longitudinal picture. The 8 point extended Glasgow outcome Score is a validated, structured interview based survey of the patient and caretaker to quantify disability as an outcome measure. There are many factors that affect post trauma health status and quality of life, however they are poorly understood. Most studies confer that the injury severity relates inversely to the patient's functional recovery.

Singapore has a large trauma load having a booming industrial and construction focus. It also has a significant prevalence of road traffic accidents and blunt trauma, even in non trauma centers. Literature suggests that non trauma center outcomes are generally worse than designated regional trauma centers [7,8]. Since there is a general lack of standardised comparative research in this field locally, we wished to describe the post-trauma health status and functional outcomes in our population [9-11].

Methods

We are a 500 bedded non trauma regional hospital catering to mostly adults. However our yearly trauma load is close to 200 patients. We wished to describe prospectively the quality of life of our trauma patients post discharge from the hospital at six months. A trauma database is maintained documenting all admissions with trauma. Two validated tools were used to evaluate the functional quality of life at six months via phone interview. These were the EQ5DTM and GOSE scores. All data were collected by the trauma coordinator and tabulated for analysis. We studied data collected over six months. Our *hypothesis* was that non trauma centers have poor functional outcomes amongst trauma patients. Our aims were to describe the EQ5DTM and GOSE scores amongst our trauma patients after six months over a period of six months.

Results

Trauma patients who fell into TISS scores greater than 16 were enrolled. A total of 164 patients were enrolled in six months prospectively. Of these 128 patients survived (78%) (HDU) and 36 (21%) expired. 83 (50%) were admitted to the ICU or hi dependency unit whilst the rest were not. Of the ones admitted to the ICU or HDU 79% survived and 20% expired.

The median age was 60 (range of 17-79). 74% were males with a predominance of blunt trauma (99%) and mostly (47%) Road traffic accidents (RTAs); others included falls, and industrial accidents.

Introduction

Injuries are a leading cause of mortality and disability in Singapore. Most trauma reports in literature mention mortality outcomes and immediate morbidity, however there is a relative paucity of data reporting quality of life of victims six months following trauma, especially from non-trauma centers such as ours [1,2]. Comparative effectiveness research allows better descriptive comparisons of quality-of-life (QOL) values amongst different studies. These are questionnaire based simple surveys carried out at discharge and 6 months such as the EQ5DTM (EuroQol) or GOSE (Glasgow outcomes score extended) [3,4]. The generic health-related quality of life instrument—EQ-5DTM—allows both a description of health status along 5 dimensions and the evaluation of health or the estimation of a health summary score: the EQ-5DTM score on a scale where 0 is death and 1 is full health. The EQ-5D is short and easy to use, and shows good responsiveness i.e. it is capable of capturing clinically important changes [5,6]. Moreover, it also allows combination of different dimensions of health to form an overall

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77% of ICU trauma admissions were for less than one week with the longest admission for up to three weeks. Similarly, 86% of High dependency unit admissions were for less than one week. All patients were discharged from the hospital and only one patient subsequently died after discharge and a caretaker helped with the surveys. The majority of the patients were of a high severity of injury (or TISS score) with half (50%) having TISS scores of greater than 25. 69% of the respondents were the patients themselves for the EQ5D and extended GOSE but 30% were proxies.

In terms of the state of health after rehabilitation for 6 months, the EQ5D™ scoring tool was used which incorporates mobility, self care, usual activities, pain/ discomfort and anxiety/ depression. It is a standardized instrument for use as a measure of health outcome. An average score of 5-10 was found in 30% of respondents. A visual analogue score (VAS) was measured before and after the trauma and a change in VAS of 18% was found showing a deterioration in health status in a fifth of the respondents. Only 31% of the patients returned to work, 31% of these were doing the same job as before the trauma and 20% lived in a nursing home.

The GOSE (Glasgow outcome score extended) is the most widely used method to describe overall outcome after head injury. The 8 categories are: Dead, Vegetative State, Lower Severe Disability, Upper Severe Disability, Lower Moderate Disability, Upper Moderate Disability, Lower Good Recovery, and Upper Good Recovery. A structured interview has been provided to improve reliability of rating. Good inter-rater reliability and content validity have been demonstrated for the GOSE. Our results showed 63% recovered moderately at 6 months whilst 31% were severely disabled. 9% could not obey commands, only 36% were independent at home, 66% required frequent help, 54% required assistance with shopping, 56% required help with travelling, 63% had restricted working capacity, only 30% could socialize to full extent as before, 20% reported disrupted family relations and only 56% reported resumption of normal life. More than 90% did not have seizures or needed anti seizure medicines.

Discussion

Our results show a poor quality of life 6 months after trauma in survivors. We do not have enough literature from our part of the world to compare rates in adequately equipped trauma centers. Both EQ5D™ and GOSE scores showed a slow rate of recovery. This may or may not correlate to the level of care in our institution but shows a poor prognostic indication of recovery amongst trauma survivors. While designated trauma center care is cost-effective for all patients taken together, it is of particular value for people with very severe injuries and for those younger than 55 years. The costs per life-year

gained are higher for patients with less severe injuries. These results underscore the importance of designing trauma systems that assure that patients are taken to the level of care appropriate to their needs. Taking the less severely injured to a lower level of trauma care will yield lower overall costs and increased efficiency in the system.

Conclusion

Further larger studies are needed to determine whether such scores are common in other centers as well in Singapore. Furthermore, strategies are needed for physical as well as psychosocial support of such individuals. The best way to reduce the burden of injuries is to prevent them from occurring. However, when primary prevention fails, acute care, public health, and public safety practitioners must work together to provide the best available and most appropriate care for the injured.

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