



Quality of life after mild to moderate trauma



Francesca Innocenti*, Beatrice Del Taglia, Alessandro Coppa, Federica Trausi, Alberto Conti, Maurizio Zanobetti, Riccardo Pini

High-Dependency Unit, Department of Clinical and Experimental Medicine, Azienda Ospedaliero-Universitaria Careggi, Firenze, Italy

ARTICLE INFO

Article history:

Accepted 14 November 2014

Keywords:

Trauma
Health-related quality of life
SOFA score

ABSTRACT

Introduction: To evaluate potential reduction in health-related quality of life (HRQOL) after a mild to moderate trauma.

Materials and methods: Follow-up study of a cohort of 153 trauma patients admitted to the High Dependency Unit of the Emergency Department of the University-Hospital of Florence from July 2008 to February 2012. After 6 months from the event, a telephone interview using the Physical (PCS) and Mental (MCS) Health Composite Score (SF12) was conducted. Patients reported their HRQOL both at present and before trauma. Scores ≥ 50 represent no disability; 40–49, mild disability; 30–39, moderate disability; and below 30, severe disability.

Results: Before the event 143 (93%) subjects reported a normal PCS and MCS. After the events, a significantly lower proportion of patients maintained a normal PCS and MCS values (52 and 68%, all $p < 0.01$). One, two, three and four PCS items worsened in 14%, 15%, 18% and 38% of the study population, while one, two, three or four MCS dimensions worsened in 12%, 19%, 19% and 24%. We identified 109 subjects (N+), which showed normal PCS and MCS values before trauma, in the absence of any pre-existing medical condition. After the event, we observed a significant PCS (before: 54, standard deviation, SD 6; after 43, SD 11, $p < 0.0001$) and MCS (before: 55, SD 7; after 47, SD 11, $p < 0.0001$) worsening among N+ subjects. Distribution across the four disability categories was 52, 24, 17 and 6% for MCS score and 38, 25, 27 and 11% for PCS score: overall 8 (7%) patients reported a moderate disability and 5 (5%) reported a severe disability in both dimensions.

Compared with subjects with preserved values, patients with an abnormal (< 39) HRQOL were older, showed a higher prevalence of female gender and pre-existing medical conditions and a worst Sequential Organ Failure Assessment score. An advanced age (OR 1.033, 95% CI 1.010–1.057, $p = 0.005$) and a higher SOFA T1 score (OR 1.500, 95% CI 1.027–2.190, $p = 0.036$) were independently associated with a worsening PCS.

Conclusions: After a mild trauma, we evidenced a relevant reduction in HRQOL; an advanced age and a higher degree of organ dysfunction were independently associated with HRQOL deterioration.

© 2014 Elsevier Ltd. All rights reserved.

Introduction

In recent years, health-related quality of life (HRQOL) instruments have been increasingly employed to evaluate the outcome of critical patients [1]: along with survival, HRQOL represents an important item to evaluate the effectiveness of health care interventions [2,3].

Most of these studies included patients managed in Intensive Care Units (ICU); a review involving a very large population

reported that among ICU survivors HRQOL improved over time after discharge, but it remained significantly lower compared with the general population during a long-term follow-up [4]. Regarding trauma prognosis, previous papers included patients with major trauma admitted to an ICU [5,6]; among patients with mild trauma, only patients with head trauma have been evaluated for short- and long-term outcome [7]. Few data exist about patients with mild to moderate trauma, admitted to a High Dependency Unit (HDU), both in terms of prognosis and HRQOL.

Trauma patients represent a unique situation: they are often young and do not have significant comorbidities before trauma. Compared with other ICU subpopulation, trauma patients showed a higher long-term survival and they reached the same mortality as the general population in a shorter period of time than the other

* Corresponding author at: Lg. Brambilla 3, 50134 Firenze, Italy.

Tel.: +39 055 7947748.

E-mail address: innocentif@aou-careggi.toscana.it (F. Innocenti).

ICU subpopulations. Besides this lower mortality rate, one year after discharge, trauma patients reported a greater reduction in HRQOL compared to other ICU subpopulations [8]: they represent the paradigm of healthy patients who suffered a severe life-threatening insult and beyond survival they suffer for a significant deterioration in their HRQOL.

Primary aim of this study was to assess potential HRQOL impairment in patients with mild to moderate trauma 6 months after discharge from an HDU; a further objective was to identify possible determinants of HRQOL perception.

Methods

Setting and study population

The study was performed in a High Dependency Unit located within the Emergency Department (ED-HDU). The University-Hospital Careggi (Florence, Italy) is an urban, 1600-bed tertiary care centre and academic hospital, with 56,000 ED visits per year. Intensive and sub-intensive care beds are limited in our reality; therefore, between Emergency Room and ICU, we created an area where critical patients could be managed and stabilised for 24–48 h, in order to avoid ICU admission. In a population of patients with sepsis, we recently demonstrated that ED-HDU allows a significant reduction in ICU admissions, leading to a relevant cost-saving [9].

The ED-HDU is a sub-intensive care unit with advanced monitoring; only Emergency Physicians (EP) covered the unit. All patients are admitted from the ED, according to bed availability. Within 48 h from ED admission, the ED-HDU physicians must decide the optimal patients' disposition, choosing between discharge, admission to an ordinary ward or admission to intensive or sub-intensive care facilities.

Because our ED-HDU do not have invasive mechanical ventilators, patients already intubated in the Emergency Room or with a high probability of intubation in the first 24 h, are directly admitted into the ICU.

Patients admitted in ED for trauma underwent standard diagnostic assessment by EP; if indicated, surgical consultation was requested. Only patients without indication to emergency surgical treatment were admitted to ED-HDU.

From June 2008 to January 2012, 307 consecutive patients were admitted to ED-HDU for trauma; nine patients died in hospital. Patients were retrospectively identified according to ED-HDU discharge diagnosis and all data were collected from clinical records, using a standardised data collection template. Recorded pre-existing medical conditions (PMC) included diabetes, coronary artery disease, left ventricular systolic dysfunction, chronic obstructive pulmonary disease, renal failure and dementia. Sequential Organ Failure Assessment (SOFA) score was evaluated both at ED admission (T0) and after 24 h of ED-HDU stay (T1). To obtain an anatomical description of the injury, ISS was calculated using the 2005 updated version of the Abbreviated Injury Score. The injury was considered mild in the presence of an ISS < 15.

All patients gave their informed consent and the study is consistent with the principles of the Declaration of Helsinki of clinical research involving human subjects.

HRQOL measurement

Six months after the ED-HDU discharge, all enrolled patients were contacted by telephone to verify health status and to administer the questionnaire; patients were asked to answer the questionnaire for their current status as well as their status before trauma. One hundred sixty-five patients answered the phone call;

non-responders were contacted at least three-time, in different time slots. Twelve subjects died during follow-up, so that HRQOL was assessed in 153 patients and they represent our study population. The 133 patients lost at follow-up included 50 foreign citizens and 17 patients who refused to answer the questionnaire. To limit the duration of the telephone calls, HRQOL was measured using the SF-12 questionnaire [10]; as demonstrated by Kiely et al. [11] in a trauma population, this subset of 12 items exhibited a good correlation with the SF-36. SF-12 physical component summary scale (PCS) includes: two questions from the physical function (PF) and the physical role limitation (RP) subscales and one question from the bodily pain (BP) and the general health (GH) subscales; these are weighted and combined to form the PCS. Two questions from the mental health (MH) and the emotional role limitation (ER) subscales and one question from the vitality (VT) and the social functioning (SF) subscales are weighted and combined to form the SF-12 mental component summary scale (MCS). Scores ≥ 50 represent no disability; 40–49, mild disability; 30–39, moderate disability; and below 30, severe disability [12].

Normative data about Italian population are available. Because SF-12 norm scoring for the PCS and MCS are transformed to have a mean of 50 and a standard deviation of 10, PCS and MCS before and after the trauma were dichotomised using 39 (1 SD below the mean value) as the cut-off between normal (greater than 39) and abnormal HRQOL [10].

Statistical analysis

Comparisons of continuous values between the two groups with normal and deteriorated PCS and MCS after the event were performed with the Student *t*-test for unpaired data; categorical data were analysed by the χ^2 test. Correction for continuity was applied to all 2×2 tables and continuity adjusted test were reported.

Because SF-12 values were not normally distributed, the Wilcoxon matched-pairs, signed-rank test was used to compare PCS and MCS global score at baseline and 6-months after the event; the same test was employed to evaluate single items before and after the event. Each of the four PCS and MCS dimensions were subsequently analysed using McNemar test for dichotomised scores; correction for continuity was applied. Items with more than two possible answers were categorised as follows: GH and SF were dichotomised as excellent or very good vs. good to bad; BP was dichotomised as nothing or minimal vs. few to extreme pain; MH and VT were dichotomised as always or a lot of time vs. sometimes to never; PF was dichotomised as no limitation vs. few to significant limitations. The association among continuous variables was evaluated with the Pearson correlation.

Variables that exhibited significant differences between the groups with normal and deteriorated PCS and MCS scores were included in a multivariable logistic regression analysis to determine the most significant predictors of PCS and MCS worsening. For all statistical tests, $p < 0.05$ was considered significant. Statistical calculations were performed with SPSS version 17 (SPSS Inc., La Jolla, CA, USA).

Results

In Table 1 clinical characteristics of study participants and non-participants are shown: this analysis was performed on 286 patients, after excluding all patients who died during hospital stay and during follow-up. Patients lost at follow-up were younger and had a lower T1 SOFA score than the study population; ISS was not significantly different (Fig. 1).

Download English Version:

<https://daneshyari.com/en/article/3239336>

Download Persian Version:

<https://daneshyari.com/article/3239336>

[Daneshyari.com](https://daneshyari.com)