Epidemiology of Cervical Spine Lesions in the Multiply Injured Patient – Recent Data of the Traumaregister DGU®.

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Abstract

Introduction: A cervical spine lesion (CSL) is common among polytrauma patients. Injuries may be life threatening. The clinical impact of CSL in multiple injured patients is the focus of this study.

Methods: A retrospective investigation on a total of 62,903 patients of the Trauma Register DGU® from 2009 and 2014 was performed. Preclinical and clinical data were analyzed.

Results: The cohort depicted the typical severity in polytrauma (mean age 51 ± 21; mean ISS of 22 ± 12). 1,321 patients sustained a CSL with an AIS 4-6 including complete spinal cord syndrome. The number of male patients was more than twice as high as of female patients. Leading causes for CSL were car accidents, falls from <3m height and falls from >3m height. 12,023 patients were unconscious (GCS ≤ 8). The majority had a CSL of AIS <2. 406 unconscious patients suffered from a CSL with an AIS 4-6. Cardiopulmonary resuscitation (CPR) was performed in 2,000 patients in the preclinical setting and 1,003 patients received CPR in the resuscitation bay. Severe CSL (AIS 4-6) had a significantly lower blood pressure (102 mmHg ± 46) and a significantly lower heart rate (74/min ± 34) than patients with less severe CSLs (AIS <2). Hospitalization was extended with the severity of CSL. Early mortality was high. More than half of the patients with CSLs (AIS 2-6) died within the first 24 hours. 404 patients were transferred to a rehabilitation facility.

Conclusion: Cervical spine lesions imply a peculiar element among polytrauma patients. Early mortality correlates with the severity of CSL. Rehabilitation facilities are mainly the end point.

Keywords: Cervical spine lesion, spinal cord injury, Glasgow Coma Scale, multiple trauma, TraumaRegister DGU® (TR-DGU)

Introduction

The cervical spine is first and foremost to be protected in the case of polytrauma. In rationale terms, a cervical spine lesion (CSL) has potentially life-threatening impact and may cause long-standing disabilities with poor neurological outcome [1, 2].