Short Review

Missed Injuries in Multiple Trauma Victims: A Short Review

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Abstract

Multiple trauma patients are always in higher risk of mortality and morbidity not only due their hazardous and life threatening injuries, but also because of missing injuries in clinical evaluations, examinations and workups. Several studies results evaluated during this review, that most of them provided that missed injuries are mostly due to lack of experience and skill in physicians while evaluating a trauma patients with multiple injuries in all three stages of trauma care process. This review proved the need for an instruction and guideline to evaluate injuries most likely to be missed in trauma patients to prevent further complications and mortalities.

Key words: Multiple Trauma, Missed Injury, Trauma Care

Introduction

Multiple trauma patients are individuals with several injuries. Multiple trauma is the most common cause of death for individuals under the age of 44 years and is the third leading cause of death for all ages. The incidents and complications due to multiple trauma are accounted for 100,000 cases of mortality in United States [1-3]. The management of the trauma patient with multiple injuries can be one of the most challenging situations faced in clinic, by even the most trained physician.

Three stages are indicated to evaluate the complications in trauma victims, including primary evaluation (immediately identifying and treating the injuries threatening patients’ life), secondary evaluation (systemic examination of multi-trauma patients, and tertiary evaluation (identifying the missed injuries following stages 1 and 2 at emergency ward) [5-9]. Although these evaluations have been taken to action, it is proved that many injuries can still entirely escape detection in the hospital. In previous studies, reviewed autopsy reports of trauma patients showed a 34% incidence of missed injuries. It has been estimated that, the missed injuries will be diminish through following mentioned stages exactly [5,6,10,11]. Several variables, have been identified in previous studies as being associated with an increased likelihood of unrecognized injuries, however factors such as alteration of consciousness level, several traumas, sever and life-threatening injuries, homodynamic instability, delayed manifestation of missed injuries, scientific and experimental level of trauma team, and methods of applying radiography are accounted for missing of the injuries [10-15]. Recently, motor vehicles accidents are the leading mechanism of multi-trauma incidence. Considering missed injuries in multiple trauma patients as part of medical errors, physicians are expected to be reluctant to indicate their errors, which comes out of lack of experience and knowledge.

With due attention to previous studies results, in this review article we are aiming to investigate the errors incidence in each stage of patients examination in trauma centers. Methods

In order to prepare current review article key words including, multiple trauma, missed injuries, severe trauma, multiple fractures, and traumatic events, searched on four major medical sciences search engines including PubMed, ISI, ISD, and Google Scholar, between articles published during 2000 to 2014. 67 articles obtained after wide searches, however, only 21 articles were usable and relative to current topic. After taking all necessary actions, articles results and conclusions evaluated and compared. Study evaluated lack of function in trauma patients’ medical cares in different stages, in order to realize the underlying cause of missing injuries. Qualitative synthesis has been used to integrate information included in the review.
Discussion

It was observed in studies dedicated to multiple trauma patients, majority of the studies are not often considered special subtypes of injuries such as musculoskeletal complications. Due to specific and specialized studies dedicated to immediate subtypes of missed injuries and various methodologies there were few studies considering all missed injuries. The missed injuries may be associated with hazardous complications including higher mortality risk, harmful disabilities and cosmetic dissatisfaction among patients. The highest rate of missed injuries accounted for foot, hands, ankles, and wrists injuries. The missed injuries in the primary evaluations were mainly due to lack of complete physical examination. Approximately in all studies, extremities were reported as the most common areas for missed injuries.

Evaluating the first stage of trauma cares including physical examination proved that injury miss in this stage comes back to lack of extremities injuries consideration by physicians in comparison to internal organs and cerebral injuries. Since, multiple trauma cases are more common males rather than females, hence, missed injuries in males were more than females. The motor vehicles accidents accounted for the most common mechanism of trauma incidence as expected.

While, radiography has been the complementary workup for clinical examinations in trauma patients, errors in this field including incorrect interpretation of radiography negatives and insufficiency of radiographies in multi-trauma patients are other reasons leading to injury miss. In addition, studies results indicated less attention to secondary and tertiary evaluations including repeated physical examinations during hospitalization as another cause. High number of patients referring to the emergency wards and hospitalized patients can be suggested as one of leading factors in justifying insufficiency of clinical examinations and diagnostic actions.

It is proved that inadequacy at all three stages of primary, secondary, and tertiary evaluations due to lack of experienced and well-skilled physicians’ results in various and hazardous injury missing in trauma patients.

By taking all above mentioned facts in to consideration, it can be concluded that there is an undeniable need for a standard instruction and checklist and specialized guideline to evaluate multiple trauma patients to prevent injury missing, that provides complete examinations and workups in all three stages in order to diminish severe and life threatening complications.

References


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