

 Original Article

Polytrauma Management and Links to EMS.

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Abstract

Background: Multiple injuries are the second leading cause of morbidity, invalidity and mortality in developed and developing countries in children, young people and the elderly. The most frequent causes are: road traffic accidents, falling from heights, firearms, vehicles, colds and explosive devices. The incidence and prevalence of polytrauma differs from region to region and the largest number of deaths from multiple injuries or polytrauma occur within the first trauma time, often defined as the "golden hour of trauma".

Aim: Provide medical care at all stages of managing the injured with polytrauma with basic and advanced support in order to reduce: morbidity, disability and mortality.

Materials and methods: The research material was obtained from UCK Emergency Clinic archive. The research is retrospective, descriptive, qualitative, for the period January-December 2018. In the research only injured with: injuries, sex, type of pathologies, causes, road traffic, firearms, cold vehicles, tools explosives as well as crashes.

Results: In 42.16% or 78 cases, problems were also reported in Phase VI because no department was willing to take responsibility for accepting the injured, but was obliged for the injured to stay in the emergency department for several days without any active treatment.

Discussion and Conclusions: This research highlights the limitations in the various steps of managing the injured with polytrauma and the absence, delays in specialties in standard procedures of operational interventions to manage these injuries. All medical care professionals should be the primary and secondary tertiary and tertiary education and training of emergency medical staff with continuous trending, communication, RKP BLS - AED & PATLS, ALS, ATLS, ACLS and the creation of the national trauma center.

Keywords: wounded, polytrauma. EMS, medical care, BLS - AED, PATLS, ALS, ATLS

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Full Text

Introduction

Multiple injury is the second major cause of morbidity, invalidity and mortality in developed and developing countries in children and young people. The term is generic, however, and has been in use for a long time for any case involving multiple traumata. The most frequent causes are: road traffic accidents, falling from heights, firearms, vehicles, colds and explosive devices. In civil life, polytrauma is often associated with motor vehicle accidents. In politrauma they represent the ultimate challenge but it is a major focus of research and optimization in their clinical care. The incidence and prevalence of many fatalities. Worldwide, around 16,000 people die every day as a result of injuries (5.8 million deaths per year), and the 2020 projections show an estimated 8.4 million deaths a year. Multiple infections are the second cause: morbidity, invalidity and death after other pathologies. The incidence and prevalence of polytrauma varies from region to region. The largest number of deaths from multiple injuries or polytrauma occur within the first trauma time, often defined as the "golden hour of trauma".

In the emergency clinic every day on average injured with multiple injuries occur 1-3 cases within 24 h. Of these injured, some of them come directly and some of them refer to EMS by regional hospitals. Who are the victims. But mostly are young victims, and especially

men, the primary victims of road traffic accidents as the main etiologic factor or other injuries. Injuries involving more than 2 systems cause many problems in managing the injured. EMS medical staff should follow medical procedures and actions to monitor, observe, diagnose, treat, and accommodate the injured with multiple injuries and continue to follow the other steps. All medical care professionals should be the primary and secondary tertiary and tertiary education and training of emergency medical staff with continuous trending, communication, *RKP BLS - AED & PATLS, ALS, ATLS, ACLS* and the creation of a national trauma center with protocols, algorithms and clinical guidelines for better and more effective management with multiple injuries.

The Goal

Provide medical care at all stages of managing the injured with politrauma with basic and advanced support in order to reduce: *morbidity, validity and mortality*.

Materials and Methods

The research material was obtained from UCK Emergency Clinic archive. The research is retrospective, descriptive, qualitative, for the period January-December 2018. In the research only injured with: injuries, sex, type of pathologies, causes, road traffic, firearms, cold vehicles, tools explosives as well as crashes.

Results

The research material was obtained from *UCCK Emergency Clinic archive*. The research is retrospective, descriptive, qualitative. In the survey, only those injured with road *traffic injuries, firearms, cold vehicles and crashes for the period January-December 2018* (Table 1).

<i>Patology</i>	<i>No. of cases</i>	<i>%</i>
<i>Diseases</i>	52770	89.32
<i>Injuries</i>	5639	10.68
<i>Total</i>	58409	100

Table 1: *Patology according to diseases and injuries.*

<i>Hurt by other means</i>	<i>No. Of cases</i>	<i>%</i>
<i>Injured in road accidents</i>	4791	84.98
<i>Dead in accidents</i>	14	0.24
<i>Wounded by gunfire</i>	63	1.11
<i>Dead by gunfire</i>	6	0.10
<i>Injured by other cold tools</i>	202	3.58
<i>Dead by other cold tools</i>	2	0.03
<i>Beaten</i>	561	9.98
<i>Totali</i>	5639	100

Table 2: *Injured by other means*

<i>Types of injuries based on systems</i>	<i>No.of cases</i>	<i>%</i>
<i>Polytrauma</i>	185	3.39
<i>Non polytrauma</i>	5454	96.61
<i>Total</i>	5639	100

Table 3: *Types of injuries based on systems*

<i>Gender</i>	<i>No. of cases</i>	<i>%</i>
<i>Men</i>	158	85.40
<i>Female</i>	27	14.60
<i>Total</i>	185	100

Table 4: *Number of injured with polytrauma by sex.*

<i>Injured with polytrauma divided by sex and age</i>	<i>Age</i>
<i>Men</i>	3-75 age
<i>Female</i>	- 67 age

Table 5: *Injured with polytrauma divided by sex and age.*

The middle ages were 25 to 32 years. Most of the injured with polytrauma were age groups: from 15 to 32 years, followed by 33 to 45 years.

Causes of polytrauma	No. of cases	%
Road accidents	142	77.75
Firearms	13	7.02
Cold tools	7	3.78
Fallen from heights	19	10.27
Explosive tools	1	0.54
Railroad accidents	3	1.62
Total	185	100

Table 6: Number of causes of injuries with polytrauma.

Referral for Counsultancy	No. of cases	%
Neurosurgery	35	18.91 %
Orthopedy	42	22.70 %
General Surgery	43	23.24 %
Thoracal surgery	14	7.56 %
Plastic surgery	11	5.94 %
Vascular surgery	7	3.78 %
Maxilofacial surgery	5	2.70 %
Spinal surgery	10	5.40 %
Anesthesiology	10	5.40 %
Urologyc surgery	8	4.32 %
Total	185	100

Table 7: Referral to specialized medical consultancy

Problems in different management stages	No. of cases	%
Phase III	40	21.62 %
Phase IV	27	14.59 %
Phase VI	78	42.16 %
Other phases	40	21.62 %
Total	185	100

Table 8: Problems in different management stages

Referrals from regional public and private hospitals	No of cases	%
Regional Hospitals	102	55.13
Private Hospitals	23	12.43
Total	185	100

Table 9: Referrals from regional public and private hospitals

Discussion and Conclusions

Emergency teams during the initial management of injuries with multiple injuries should preserve health, stabilize the injured by determining the degree of injury and develop an initial treatment plan for hospitalization. All communications related to treatment should be made through the team doctor to avoid confusion. Proper data management by the team manager is a necessity. In the event of a problem, the physician or team manager should

decide on a department that has to arrange the injured if required.

The exit from each member of the medical emergency team and other specialties may lead to the death of the injured. In order to avoid any delays and to have better management in the initial trauma examination, the creation of triad areas is important, based on the treatment needs and the resources available to ensure adequate treatment.

The results of our study were similar and comparable to those of a study conducted in a Germany hospital (Current Traumatic Trauma Register of the German Trauma Society), where most of the polytracheally injured were in the age group between 17 and 35 years. From our research we found that men were more often affected than women (17: 1) by road traffic accidents was a prevalent etiologic factor followed by falling elevations.

References to specialties other than those originally planned, being handled at the Emergency Clinic by consulting by putting interactions into consultations with other specialties as well as placement or settlement.

he ultimate responsibility / whose property belongs sick patient with politraume? ? ? . This research highlights the limitations in the various steps of managing the injured with politrauma and the absence, delays in specialties in standard procedures of operational interventions to manage these injuries. The results of our study showed that the problems were manifested in various steps during the management of injured with polytrauma, and they noted the lack of prostheses, diganostics, triad areas, specialist consultants and their system.

The lack of co-ordination of actions is the main cause of delays in the management of injured politrayers and this affects the long-standing attitude of the injured in the ED. Creation of trauma teams in the management team of polythene management permanently composed emergency physician general surgeon, anesthesiologist, orthopedic surgeon, neurosurgeon, cardiothoracal surgeon (other specialties as needed), nurses and other paramedical staff and support staff. When waiting for the injured, a proper triaging system must be established, according to the predetermined criteria of the triad system and after triage, the emergency doctor should be an important part by establishing the treatment plan accordingly and with other specialist specialties.

The emergency team manager should be responsible for informing all relevant specialties and also to record the time of the information sent to the register together with the time at which the call was followed by the respective specialty. In 42.16% or 78 cases, problems were also reported in Phase VI because no department was willing to take responsibility for accepting the injured but was obliged for the injured person to stay in the emergency department for more days without any active treatment. However, no problems were noticed in Phase II and Phase V. Differences in different steps in the treatment of injured with politrauma ED, in addition to the above problems, are also noted other problems in managing the injured with politrauma. First, there was a lack of a triad system and the lack of availability of a special area for the management of

injured with politrauma ED, resulting in the mixing of injured with politrauma with the sick of other specialties. Lack of special areas for the implementation of CPR measures for management of injured with politrauma; inappropriate information, followed by different specialties and lack of coordination between the various specialties in managing the injured with politrauma. The injured were hospitalized at 79.7% in ICU, 6 days of ICU treatment and stayed in the hospital for 19 days. The observed complications were organ failure (lungs 24.0%, circulation 21.7%, liver 9.6%, kidney 3.1%) and sepsis (11.6%).

Extended prolonged rescue time, early intubation, and good para-clinical treatment lead to reduced intracellular complications. All medical care professionals are continually educated and trained emergency medical staff with ongoing Triggering, Communication, *RKP - AED & First Aid, BLS, ACLS, PALS, ats. triage* at primary, secondary and tertiary level is immediate as well as the creation of the National Center for trauma with protocols, algoritmev and clinical guidelines for better and more manageable management with multiple injuries.

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