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Surgical Tactics in the Treatment of the Injured with Multiple Mechanical Trauma

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Introduction: Multiple trauma is accompanied by a high rate of mortality among the injured, a prolonged loss of the ability to work, and a high level of disability. Often these results correspond with the lack of a unified surgical approach and a lack of treatment of the injured in non-specialized hospitals.

Objectives: To develop surgical tactics in specialized hospitals for cases of multiple trauma.

Methods: The treatment of 1,679 patients with multiple, mechanical traumas was analyzed. The severity of traumas and the condition of the injured patients were calculated by points according to the method of E.K. Gumanenko (1966).

Results: 4,457 injuries were diagnosed. Two injuries in each patient were present in 64.5% of the cases, three injuries were found in 26.0% of the cases, four injuries were found in 5.7% of the cases, and five injuries were found in 3.8% of the cases. Severe and extremely severe injuries were present in 77.0% of the cases, loss of blood of more than 1.0 L was detected in 83.0% of the cases, and shock was in present in 78.9% of the cases. The average time of delivery of the injured to the hospital was two hours. 78.0% of the injured were operated within 24 hours after admission, 8.0% within 2-3 days, and 14.0% of the cases were operated three days or longer after admission. On the average, 2.7 surgeries were performed on every patient. In 18.8% of the cases, surgeries were performed on one anatomical region. Synchronous, simultaneous surgeries were performed in 12.0% of the cases, consecutive, simultaneous surgeries during one anesthesia occurred in 32.6% of the cases, and staged surgeries with a break of time occurred in 36.5% of the cases. The mortality rate was 21.4%.

Conclusion: The treatment tactics for the injured patients with multiple trauma should include anti-shock measures that should be performed as early as possible, and emergency surgeries that eliminate a direct threat to the patient's life should be performed promptly. In addition, surgical correction of all identified injuries should be done.

Keywords: injuries; traumatic; specialized facilities; surgery; tactics; surgical; trauma

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Pre-Hospital and Initial In-Hospital Trauma Care: Evaluation of a European ModelHerman Delooz, MD, PhD, FCCM,¹M. Sabbe, MD, PhD;¹ L. Van Camp, RN, PhD;¹E. Dhondt, MD;¹ P. Vanderschot, MD;²P. Broos, MD, PhD²

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Introduction: In emergency trauma care, as in all emergency care, the main determinant of outcome, both mortality and morbidity, is the oxygen debt accumulated during the early phase after injury (Guyton, Shoemaker). In order to limit the therapy-free interval, pre-hospital and immediate in-hospital trauma care must operate according to a protocol that determines the minimum acts and interventions to be performed, the sequence of interventions, and the team-member in charge of each of the interventions.

Purpose: To investigate the results of trauma care delivered by a trauma team performing according to a trauma protocol.

Methods: A protocol was developed through discussion and consensus of all the team-members, based on evidence from the literature, from their own data, and from previous experience. This protocol serves as an a-priori means of quality improvement, for it is carried by all of the team members. A Major Trauma Outcome Study was performed on the trauma population of this Center during a two-year period.

Results: This trauma population was similar with the most recent USA Trauma Center results as it demonstrated a matching index of 0.935. The main result is a survival rate that is significantly different from the USA data (Champion 1996), showing a greater survival of eight patients out of 1,000 major trauma victims.

Conclusion: A European model of trauma care, based on a protocol developed from evidence through consensus of all the actors involved in the trauma care (Emergency Physicians, Trauma Surgeons, Anesthetists, Radiologists, Neurologists/Neurosurgeons and Emergency Nurses) produces results that compares favorably with the USA model of Trauma Center Care.

Keywords: emergency; injury; in-hospital; outcome; oxygen debt; prehospital; protocol; quality improvement; severity scores; trauma; trauma care; trauma models

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General Session-VI
Preparedness for Disaster-I
Monday, 10 May, 13:00-14:15 hours
Chair: Karl -Axel Norberg, Nobuo Kaku

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Major Chemical Accidents in Russia (Preparedness, Cooperation)

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Introduction: There has been an increase in the number of chemical accidents in Russia in the past three years. One of the largest accidents was at the plant "Dalchim-

One of the largest accidents was at the plant “Dalchim-pharm” in Khabarovsk where more than 1,000 workers were affected.

Results: When analyzing the results of the operations of the All-Russian Disaster Medicine Service in this accident, we made certain the system set up in Russia at chemical accidents was highly efficient. The system is presented at territorial, regional, and federal levels. Each city has a centre for Disaster Medicine where there are specialists in chemical accidents that are ready to organize cooperative efforts between different services, if a chemical event would arise. In chemical emergencies, the headquarters are set up and supervised by a representative from the Department of Public Health. This representative supervises all of the medical units that participate in the chemical emergency response; in particular, the Emergency Medical Care Teams, toxicological teams of specialized centres for acute poison control, medical teams from other departments such as the Ministry of Defense, the Interior Ministry, the Ministry of Transport, etc. Such cooperation provides prompt delivery of a first doctor experienced in the provision of such care at the site of event.

Therefore, in the chemical accident in Khabarovsk, the first medical teams arrived three minutes after the onset of the accident, and evacuation of the injured to specialized clinics was completed within two hours. Because of the above activities, secondary care was delivered within the first three hours, and later, 95% of the patients were discharged from the clinic in an adequate state of health.

The second distinctive feature of the system is the delivery of experienced and secondary medical care directly to patients at the site of emergency. This feature allowed avoidance of complications of the injured in a given situation.

The third distinctive feature is the exact identification of the toxic substance. Local medical institutions, toxicological centres, and the All-Russian Centre for Disaster Medicine diagnose the substance on a gas-liquid chromatograph and a nuclear-magnetic mass spectrometer. Hexachlormelamine poisoning was determined as the cause in the Khabarovsk incident. Rapid identification of the cause makes it possible to provide a timely and adequate specialized therapy for patients.

Conclusion: The system for response to chemical emergencies set up in Russia is highly efficient and is recommended for introduction into other countries.

Keywords: accidents, chemical, care, secondary; cooperation; detection; evacuation; hazardous materials; hexachlormelamine; physicians; poisoning; preparedness; system; teams

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Japanese New Disaster Relief Ship, “OSUMI”

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Japan is an island country surrounded by the sea. Almost

all of the big cities are located on a coast. Kobe is the typical example.

The recent big earthquake in Hanshin District of Kobe taught us that rescue activities using the land route were extremely difficult, while those using the sea route were very effective. Due to the fact that Japan had no medical rescue system via the sea route, such medical activities were limited. For this reason, the necessity of multi-purpose ships and rescue ships for disaster relief are being discussed. Currently, the Japanese Maritime Self-Defense Force has a new landing ship, the “OSUMI”. The OSUMI has high-level medical facilities. We will discuss the practical uses of this ship for disaster relief.

Keywords: disaster; disaster relief ship; Japan; relief; sea approach; ship;

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Police Medical Support in Hong Kong

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Serious incidents during the period 1950–1967 led to a fundamental reorganisation of the Police response to Civil Disorder in Hong Kong, including the formation of a Police Tactical Unit with specialist training in this area. It is not widely known that as a direct result of these troubles, baton rounds were invented in Hong Kong, and that much of the experience gained acted as a catalyst for thought in other nations.

While the streets of the Territory have remained relatively peaceful since that era, rioting in the Vietnamese refugee camps and sporadic upsurges in armed robbery by gangs have led to an awareness that training needs to be maintained. Within the Police Force, a number of units have identified the need to acquire medical response capabilities to a high standard.

In this presentation, we discuss the potential needs of Police Forces for tactical medical support, and the problems and risks that stem from these needs, drawing on the Hong Kong experience.

Keywords: baton rounds; civil disorder; Hong Kong; law enforcement; refugee; tactical medical units

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Shock for Everybody

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An uncountable amount of literature has been written about the problem of shock, and the more information — the more confusion between the readers. In this paper, the author will explain the basic principles of the circulation and shock using funny pictures.

This system of pictures has been prepared using