

Current status and future options for trauma and emergency surgery in Turkey

Travma ve acil cerrahiyle ilgili Türkiye'deki güncel durum ve gelecekte uygulanabilecek seçenekler

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The number of trauma victims in Turkey is expected to increase as a consequence of the increasing vehicular traffic, potential for earthquakes, and risk of terrorist attacks. The Turkish Association for Trauma and Emergency Surgery monitors trauma cases, publishes a quarterly journal, organizes trauma courses and seminars for various health personnel nationwide. It is also extending efforts to improve in-hospital care by establishing trauma and emergency surgery fellowships and trauma and emergency surgery centers nationwide, which is run by General Surgeons currently. Turkey faces the same dilemma as the rest of the developed world regarding the future of trauma surgeons in the current era of nonoperative trauma management. We suggest that the field of trauma and emergency surgery be redefined to include emergency general surgery and cavitary trauma.

Key Words: Trauma education; Turkish trauma courses; Turkish Trauma and Emergency Surgery Journal; trauma system.

Türkiye'de travma sonrasında yaralanmaların, trafik kazaları ve deprem gibi doğal afetler ve terör gibi kitlesel afetler sonrasında artması beklenmektedir. Ulusal Travma ve Acil Cerrahi Derneği alanındaki olguların yönetimi, yılda dört kez Ulusal Travma ve Acil Cerrahi Dergisi'nin yayınlanması, düzenli olarak Travma kurslarının ve kongrelerin düzenlenmesi gibi eğitimsel görevler üstlenmektedir. Mevcut durumda bakımı Genel Cerrahi Uzmanları'nın üzerinde olan, Travma ve Acil Cerrahi'nin yan dal eğitimi şeklini alması için yoğun çabalar göstermektedir. Travma olgularında nonoperatif yaklaşım bu alanda görev yapan travma cerrahlarının vaka yükünü azaltmaktadır. Biz Travma ve Acil Cerrahi eğitimi içinde travma, acil cerrahi, boşlukların travmasının olması gerektiğine inanıyoruz.

Anahtar Sözcükler: Travma eğitimi; Türk travma kursları; travma sistemi; Ulusal Travma ve Acil Cerrahi Dergisi.

Introduction

Trauma is the most common cause of death in the young and productive population worldwide. Despite the recent trend towards a decrease in the incidence of penetrating injuries in Western countries,^[1] road traffic accidents still constitute a major public health problem. The World Health Organization estimates that the mortality rate due to road traffic accidents will increase by 67% by the year 2020, and most of this increase will occur in the

Middle East, North Africa, and Asia.^[2] In Turkey, given the spiraling road traffic problem combined with the potential for earthquakes and the on-going risk of terrorist attacks,^[3] we can expect health care providers to encounter a growing number of trauma victims in the near future.

The first center named as the "Trauma and Emergency Surgery Service" in Turkey was established by Saman Belgerden in 1982 at Istanbul University, Istanbul Medical School. The service is

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active since then, and works as a section of the General Surgery Department, mainly dealing with acute care surgery. Residents rotate from the General Surgery department for two months every year during their five-year residency, for a total of 10 months. Besides these rotation periods, they are on night shift every four or five days throughout their residency. In addition to the surgical residents, all surgical disciplines such as; Anesthesia, Orthopedics, Neurosurgery, Thoracic surgery, Cardiovascular surgery, Ear-nose and throat surgery and Plastic surgery, and also family medicine residents rotate in the Trauma and Emergency Surgery Service for an average period of six months.

Current scope of Trauma and Emergency Surgery

In this field, all surgical emergency cases are covered. All cases named as emergency surgery; such as, gastrointestinal bleedings, bowel obstructions, acute abdomen and peritonitis are treated. In addition to these mainly all trauma cases excluding skeletal and neurologic trauma are treated by General Surgeons. In terms of cavities, head trauma as well as spinal trauma is treated by Neurosurgeons. Neck trauma is mainly treated by General Surgeons. Thoracic Trauma is mainly covered by General Surgeons due to the lack of Thoracic Surgeons in most of the institutions, and if present this service is delivered by General Surgeons in collaboration with thoracic surgeons. Abdominal trauma care is delivered by General Surgeons nationwide. Vascular Trauma cases are treated by General Surgeons in limited Trauma and Emergency Surgery Services, but mainly treated by vascular surgeons. Burn care is given by General Surgeons in majority of the hospitals, and by Plastic Surgeons in limited centers. Surgical intensive care is run by mainly Anesthesiologists and then General Surgeons. Skeletal trauma is treated by Orthopedic Surgeons nationwide, and is not included in the scope of Trauma and Emergency Surgery, as it is carried out by some central European countries by Trauma Surgeons.^[4] Nationwide emergency medicine residency is available in most of the universities and teaching hospitals, and there are almost 200 emergency physicians and several residents treating initial phase of trauma.

Trauma and emergency surgery cases are treated by standard general surgeons nationwide on duty, in

addition to their elective general surgery workload. Increasing tendency towards sub specialization in surgery; such as colorectal, upper gastrointestinal, endocrine, laparoscopic surgery, also diminished the work spectrum of a standard general surgeon. This condition caused young surgeons in the field to feel attracted towards Trauma and Emergency Surgery. We believe that trauma and emergency surgery cases would be handled better by specialized surgeons on this field compared to standard general surgeons performing this task in addition their standard workload. The tendency towards nonoperative treatment in many abdominal trauma cases decreased the workload of General Surgeons in terms of abdominal trauma in the last decade, and there is an increasing enthusiasm towards trauma and emergency surgery.

Trauma care in Turkey

The pre-hospital trauma care in Turkey generally resembles the “scoop-and-run” system of the North American Emergency Medical Service (EMS), with very few interventions on scene, rapid packing of the patient, resuscitation en route, and rapid transport of the trauma patient to the nearest surgical center. Until recently, one crucial difference was the presence of a medical doctor in every ambulance in Turkey. Unlike other European countries, however, the ambulance physician was a general practitioner, with limited formal postgraduate education in trauma. In June 2007, new guidelines came into effect authorizing the gradual replacement of ambulance physicians with 8.000 newly trained paramedics nationwide. The Ministry of Health of Turkey has obligated by June 2004, all general practitioners to attend four internationally recognized courses as follows: basic life support, advanced life support, pediatric life support, and trauma and resuscitation course (TRC), which is organized by the Turkish Trauma & Emergency Surgery Association.

Trauma and emergency surgery education and protocols are determined mainly by the Turkish Association for Trauma and Emergency Surgery (TATES). Since 1996, the relevant staff of all teaching hospitals in the Marmara region have assembled once monthly to discuss new and interesting cases, and their findings and conclusions are published quarterly (January, April, July, October) in the Turkish Journal of Trauma and Surgery, the offi-

cial TATES publication. Similar meetings are also organized in Kayseri and Ankara. The journal has been indexed in Index Medicus and Medline since 2001, and in Excerpta Medica and EMBASE since 2005. TATES has to date organized 6 national, 5 regional meetings, and one European meeting, all with high attendance. The last national meeting in September, 2007 attracted many health professionals on the field, and 13 Medical societies supported the event. These were: Turkish Society of Surgery, Turkish Association of Ambulance Doctors, Turkish Association of Anesthesiology and Reanimation, Turkish Emergency Medicine Physicians Association, Turkish Pediatric Surgery Association, Turkish Association of Thoracic Surgery, Turkish Association of Cardiovascular Surgery, Turkish Society of Orthopedics and Traumatology, Turkish Association of Plastic Surgery, Turkish Association of Neurosurgery, Turkish Association of Vascular Surgery, Turkish Phlebology Association and Turkish Surgical Gastroenterology and Endoscopy Association. European Society for Trauma and Emergency Surgery (ESTES) which was constituted by the merging of the European Association for Trauma and Emergency Surgery (EATES) and European Trauma Society (ETS) and 2009 meeting of ESTES will be organized in Turkey.

Since 1998, it has regularly offered a 4-day educational course on TRC to health personnel working in command and control centers and emergency health services. The course emphasizes optimal medical care following trauma. Candidates who pass the oral and written examinations at termination of the course are certified to practice trauma care for 5 years. So far, 6,598 physicians throughout the country have successfully completed 183 standard courses taught by a total of 714 specially trained instructors. The course is currently being taught in 20 centers in 17 cities in Turkey (Istanbul, Ankara, Izmir, Diyarbakir, Adana, Antalya, Denizli, Kayseri, Erzurum, Bursa, Gaziantep, Eskisehir, Konya, Malatya, Samsun, Trabzon and Mersin). In 2007, several instructors were trained to teach trauma and rehabilitation courses targeted to nurses and paramedics, which are scheduled to begin at the beginning of 2008. In addition, a Definitive Surgical Trauma Care course was organized in Istanbul in 2002 with 5 foreign instructors and 7 international participants, in collaboration with the

International Association of Trauma and Surgical Intensive Care (IATSIC). April 2005, the Turkish Trauma Textbook, consisting of 25 chapters, 113 sections, and 1.438 pages, with contributions from 159 authors from all universities and many teaching hospitals nationwide, including 6 foreign authors was published. The Emergency Surgery textbook will be released by the beginning of 2008 in the same manner.^[4-13] Trauma mail group also attracted 947 health professionals under a very active network.

In Turkey, in-hospital trauma care is usually provided by general surgeons. Multi-traumatized patients are first evaluated by a general surgeon or an emergency physician, and then by specialists in thoracic, cardiovascular, orthopedic surgery, neurosurgery, and other fields, as necessary. In public hospitals, most surgeons perform both elective general surgery and trauma-related and general surgical emergency operations when on hospital duty or on call. There is no officially approved trauma surgery fellowship program in Turkey. The only dedicated trauma center in the country is located at the Department of General Surgery of Istanbul University Medical School in Istanbul, the largest metropolis in Turkey, with a population of 13 million. Because of the lack of a nation-wide regionalized trauma center system, trauma care is an important part of the practice of virtually every general surgeon in Turkey, and trauma surgery is an integral component of all university and training-hospital surgical residency programs. However, most of these programs do not have trauma and emergency surgery prerequisites for completion of a general surgery residency. TATES is extending much effort in establishing a trauma and emergency surgery fellowship and trauma and emergency surgery centers nationwide, and several meetings toward this purpose have been scheduled with representatives of the Department of Health.

By contrast to the public hospitals, some of the university hospitals and training hospitals affiliated with the Department of Health have incorporated postgraduate academic emergency medicine specialties during the last decade.^[13]

Current trends in Turkey

We believe that trauma surgeons should perform both emergency and elective general surgery in

order to maintain their operative skills in the current era of nonoperative trauma management. The field of trauma and emergency surgery should be redefined to include emergency general surgery and trauma. This combination would improve operative potential, lead to an active and satisfying practice, and result in better trauma and emergency surgical patient care.

References

1. Engelhardt S, Hoyt D, Coimbra R, Fortlage D, Holbrook T. The 15-year evolution of an urban trauma center: what does the future hold for the trauma surgeon? *J Trauma* 2001;51:633-7.
2. Peden M, Scurfield R, Sleet D, Mohan D, Hyder AA, Mathers EJ, et al. *World Report on Road Traffic Injury Prevention*. Geneva: World Health Organization; 2004.
3. Rodoplu U, Arnold JL, Yücel T, Tokyay R, Ersoy G, Cetiner S. Impact of the terrorist bombings of the Hong Kong Shanghai Bank Corporation headquarters and the British Consulate on two hospitals in Istanbul, Turkey, in November 2003. *J Trauma* 2005;59:195-201.
4. Uranüs S, Lennquist S. Trauma management and education in europe: a survey of twelve geographically and socioeconomically diverse European countries. *Eur J Surg* 2002;168:730-5.
5. Taviloglu K. Trauma and resuscitation course, general information. In: Taviloglu K, Ertekin C, Guloglu R, editors. *Trauma and resuscitation course book*. Istanbul: Logos Press; 2006. p. 11-19.
6. Bresnahan KA, Fowler J. Emergency medical care in Turkey: current status and future directions. *Ann Emerg Med* 1995;26:357-60.
7. Ozdogan M, Taviloglu K. Editorial: Towards a combined trauma and emergency surgery service. *Ind J Trauma Anaesth Crit Care* 2006;7:449-51.
8. Adas G, Sarvan F, Kupelioglu R, Taviloglu K. Evaluation the trauma and emrgency surgery care in three hospitals of different standards of the Istanbul city. [Article in Turkish] *Ulus Travma Derg* 1997;3:222-227.
9. Taviloglu K, Ertekin C, Turel O, Gunay K, Guloglu R, Kurtoglu M. The level of Emergency Medical Care in the city of Istanbul; analysis and proposals. [Article in Turkish] *Ulus Travma Derg* 1998;4:95-100.
10. Taviloglu K. How is our disaster organization, following the 17 August, 1999 earthquake? [Article in Turkish] *Turk J Surg* 1999;15:333-42.
11. Taviloğlu K, Ertekin C, Güloğlu R, Tokyay R, Akgün Y. Trauma and resuscitation course (TRC): evaluation of the first 2 years. [Article in Turkish] *Ulus Travma Derg* 2001;7:8-12.
12. Taviloğlu K, Aydin A, Cuhali BD, Demiralp T, Güloğlu R, Ertekin C. The evaluation of the suitability of our cases for referral to a level I trauma center. [Article in Turkish] *Ulus Travma Derg* 2001;7:146-50.
13. Ozdoğan M, Ağalar F, Eryilmaz M, Ozel G, Taviloğlu K. Prehospital life support in trauma patients: basic or advanced trauma life support. [Article in Turkish] *Ulus Travma Acil Cerrahi Derg* 2006;12:87-94.