Editorial

F. Turégano · S. Lennquist

Received: 22 January 2013 / Accepted: 30 January 2013 / Published online: 15 February 2013
© Springer-Verlag Berlin Heidelberg 2013

The focus of this issue is on some aspects of disasters and military surgery which should be of interest to many readers. The never-ending local and regional military conflicts worldwide, the ever-present terrorist threat against civilians, and the relentless and occasionally dramatic natural disasters that continue to plague our world remind us as surgeons that we need to be prepared to cope with them. The key to preparedness is awareness and training, and we have a major role to play there, together with colleagues from different disciplines in the field of disaster medicine. Multiple-trauma patients are often the end result of many of these man-made and natural major incidents or mass casualty events (MCIs). A broad field of knowledge and expertise has been built during the last several decades as a consequence of reports from MCIs and military conflicts, and we continue to gather information on a yearly basis. This knowledge will undoubtedly contribute a great deal to mitigate the impact and suffering caused by these events in the near future.

In this issue, Goniewicz [1] reviews the legal aspects of medical personnel protection in armed conflicts, in accordance with international humanitarian law and the Geneva Conventions. This is a relevant topic in view of the fact that treachery and abuse of pictographic representations of the Red Cross and Red Crescent is common in contemporary armed conflicts, and has led to attacks on people and objects bearing the emblem of protection. The practical problem of how to guarantee that the marked unit is

actually an ambulance or a humanitarian mission, not a branch of enemy armed forces, remains elusive in the article. The author's wish and conclusion is that educating societies in the field of international law may help to prevent attacks on medical facilities and personnel, as well as significantly improve the fate of the victims of armed conflicts.

Shaked et al. [2] report on a small series of civilian injuries due to unexploded ordnance in military training areas in southern Israel. These areas are different from mine fields in that the type and amount of explosives vary, and injuries caused by these munitions usually result from handling a device. Consequently, injured body areas are usually the face and the extremities, and vary considerably in their extent. As could be expected, the authors state that the pediatric population is highly vulnerable.

Blumberg et al. [3] report the distribution and types of skeletal injuries sustained following the Haiti earthquake of 2010. It is an observational study describing the findings of radiographic images taken in a field hospital facility belonging to the Israeli Defense Forces. They provide valuable information on the distribution of fractures that can be expected in a mass casualty scenario of this type.

An interesting paper by Ratnayake et al. [4] deals with vascular injuries management. They report the management and outcome of 128 patients with penetrating peripheral vascular injuries resulting from the conflict in Sri Lanka. All casualties were treated at a military hospital with limited resources. Their results are impressive in that the overall limb salvage rate was 83 %, despite an average time delay from injury to definitive care of 5.5 h, with an all-cause mortality of 3.1 %. Seventy percent of arterial injuries needed a vein interposition graft, and the majority of venous injuries were ligated. A temporary intraluminal shunt (TIS) was applied in the 14 most severely injured

F. Turégano (✉)
Gregorio Marañón Hospital, Madrid, Spain
e-mail: fturegano.hugm@salud.madrid.org

S. Lennquist
University of Linköping, Linköping, Sweden

patients, and it allowed a single surgeon to perform two simultaneous vascular reconstructions. They make the point that the management of combat vascular injuries based on clinical guidance is feasible and can lead to good outcome in this austere setting. Neither the absence of angiography nor a shortage of experienced vascular staff was the reason for primary amputation. The authors believe that early prophylactic fasciotomy before revascularization is beneficial in the setting of delayed referral to a higher level of care.

Finally, Sousa et al. [5] report on the incidence of rhabdomyolysis and its risk factors in severe polytrauma patients, and correlate these risk factors with its main complication, acute renal failure (ARF). Due to the incidence of ARF in some types of major disasters involving victim entrapment with crush injuries, their analysis is of great interest. The authors are probably correct in their assertion that the identification of risk factors and the approaches of trauma surgeons to this pathology are frequently overlooked, if not ignored altogether. This study illustrates the existence of rhabdomyolysis even in high-energy trauma victims, and its incidence increases with surgery and the duration of that surgery. It also confirms the utility of creatine kinase (CK) as a marker of muscle damage and emphasizes the importance of determining myoglobin levels when assessing this syndrome.

In summary, these are five interesting papers dealing with a variety of issues relevant to the legal aspects, epidemiology, and management of casualties in the context of disasters and military conflicts.

Conflict of interest None.

References

1. Goniewicz M. Protection of medical personnel in armed conflicts—case study: Afghanistan. *Eur J Trauma Emerg Surg*. 2013. doi:[10.1007/s00068-013-0251-0](https://doi.org/10.1007/s00068-013-0251-0).
2. Shaked G, Beck G, Sebbag G, Yitzhak A, Zlotnik A, Czeiger D. Civilian injuries due to unexploded ordnance in military training areas in southern Israel. *Eur J Trauma Emerg Surg*. 2013. doi:[10.1007/s00068-012-0239-1](https://doi.org/10.1007/s00068-012-0239-1).
3. Blumberg N, Lebel E, Merin O, Levy G, Bar-On E. Skeletal injuries sustained during the Haiti earthquake of 2010: a radiographic analysis of the casualties admitted to the Israel Defense Forces field hospital. *Eur J Trauma Emerg Surg*. 2013. doi:[10.1007/s00068-012-0215-9](https://doi.org/10.1007/s00068-012-0215-9).
4. Ratnayake A, Samarasinghe B, Halpage K, Bala M. Penetrating peripheral vascular injury management in a Sri Lankan military hospital. *Eur J Trauma Emerg Surg*. 2013. doi:[10.1007/s00068-012-0228-4](https://doi.org/10.1007/s00068-012-0228-4).
5. Sousa A, Paiva JA, Fonseca S, Raposo F, Valente L, Vyas D, Ribeiro O, Pinto R. Rhabdomyolysis: risk factors and incidence in polytrauma patients in the absence of major disasters. *Eur J Trauma Emerg Surg*. 2013. doi:[10.1007/s00068-012-0233-7](https://doi.org/10.1007/s00068-012-0233-7).