Editorial

Polytrauma

Enrique Guerado[*,§]

Department of Orthopaedic Surgery and Traumatology, Hospital Costa del Sol, Autovía A-7 Km, 187, 29603, Marbella, Malaga, Spain

Since prehistoric times, physicians have been called upon to treat polytrauma patients. However, the demand for treatment has increased dramatically in the last 40 years, as the incidence of high velocity trauma has risen, and following the introduction of the concept of damage control. In developed countries, political decisions impacting on road safety (by measures such as motorway construction programmes and safety-oriented legislation) and on safety in the workplace have reduced the number of polytrauma deaths occurring each year. In consequence, the three main variables currently responsible for the successful outcome of many patients are rapid attention/transport from the accident site to specialised facilities, accurate diagnosis and prompt treatment.

With respect to the first of these variables, medicalised transport is of the utmost importance, together with effective emergency reception at the hospital. Acute modern diagnostic tools, such as very early blood tests, contrast CT-scanning and the abdominal ultrasound protocol Echo-FAST (echo-focused abdominal sonography for trauma), together with resuscitation techniques, in particular surgical management to stop bleeding, have enabled the successful recovery of many patients who would otherwise have died. In fact, the latter positive development is associated with the increasing occurrence of certain complications such as systemic inflammatory syndrome and multiorgan failure. The infusion of fluid is based on the use of colloids, erythrocyte concentrate and plasma transfusion, and these are vital resources, but the overriding goal remains that of avoiding further blood loss.

Orthopaedic trauma surgeons are aware that pelvic ring fractures must be treated immediately. In this respect, the ring must be closed to its normal diameter and long bone fractures addressed by immobilising the lower extremities, preferably with external fixation, as the first step to prevent major bleeding. This approach has been termed damage control orthopaedics, and the concept has recently been extended to the early treatment of spinal injuries.

Many combinations of lesions in polytrauma patients may be encountered, and the situation is highly complex. Accordingly, the above observations provide only a general introduction. Both general and specific lesions of polytrauma patients – adult, children and elderly – are discussed in this issue of *The Open Orthopaedic Journal*.

*Address correspondence to this author at the Department of Orthopaedic Surgery and Traumatology, Hospital Costa del Sol, Autovía A-7 Km, 187, 29603, Marbella (Malaga), Spain; Tel: 34 951976224; Fax: 34 952823219; E-mail: eguerado@telefonica.net

[§]Guest Editor

1874-3250/15 2015 Bentham Open