Recovery of Respiratory Functional Defects after War Injuries to the Chest

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Aim. Assessment of lung function before, during, and after surgical treatment of war injuries to the chest, and comparison of conservative and operative surgical approach.

Patients and Methods. A retrospective study of 439 patients with war injuries to the chest inflicted during the wars in Croatia and Bosnia and Herzegovina was performed. Patients were classified by injury mechanism and by physiologic scoring on admission, according to the cardiovascular-respiratory elements of the Injury Severity Score (ISS). “Conservative” surgical treatment with chest tube drainage, appropriate fluid therapy, and antimicrobial and atelectasis prophylaxis was performed in 358 (81.5%) and operations in 81 (18.5%) patients. Blood gases were analyzed before, during, and after surgical treatments. Pulmonary function was assessed after the stabilization of patients’ clinical condition and 3-6 months after the injury.

Results. On admission, blood gas profiles showed slight to moderate hypoxemia with consecutive hypercapnia related to the severity of injuries. Surgical treatment left a minimum degree restrictive disorder of ventilation without an obstructive pattern. Definitive repair of lung function presented with normalization of blood gas data, and significantly improved restrictive pattern (p<0.05). There was no difference in definitive lung function between conservatively and operatively treated patients. Mortality was 2%.

Conclusion. The success of surgical resuscitation was related to ISS scoring. Recovery of respiratory function defects after the injury was not significantly related to the mechanism of injury or the patient’s condition at arrival. The recovery of lung function was similar in conservatively and operatively treated patients.

Key words: blood gas analysis; lung function tests; surgical procedure, operative; war; wounds, chest

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