A panel discussion

Homeostatic alterations with major trauma

Participants

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Introduction

The victim of major trauma is beset with threats to his continued survival, many of which are related not to the primary injuries received, but related rather to major alterations in the "milieu interieur." These alterations result from localized tissue damage, hormonal responses to stress, massive haemorrhage and its therapy, nutritional disruption,

and impairment of perfusion. As the acute care of the massive trauma victim improves, we are becoming more aware of the subtle but significant alterations of homeostasis which occur in these patients. This awareness is due in no small part to our increasing ability to measure at the bedside a growing number of derived cardiovascular, respiratory, and metabolic parameters. Concomitantly, there is increased understanding of cellular function and dysfunction at the biochemical level, due to studies of various agonists and antagonists. Thus we are beginning to be able to tune more finely the misfiring biological engine of the victim of major trauma.

Management of these patients in the acute phase of their injury requires a holistic approach, at least in a physiological sense. The surgical management of the primary traumatic lesions may be only a small part of the acute intervention required to restore an acceptable quality of life.

Our knowledge of the mechanical and nutritional aspects of spontaneous ventilation has grown substantially over the past decade. The use of blood components instead of whole blood has substantially altered but not removed the problems associated with massive transfusion. The body of knowledge relating to arachidonic acid metabolites and endorphins has grown to the point that intervention in these two biological systems is beginning to appear on stage in the drama of clinical resuscitation. Although renal failure is frequently the ultimate cause of death in those who succumb to the secondary complications of massive trauma, we are moving ever closer to a practical understanding of renal function and its preservation.

Each of these four areas is reviewed, placing current understanding of the subject under discussion within a clinical context.

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