Head Injury

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This issue of **Neurosurgical Focus** is devoted to head injury. Although this is certainly a broad topic, an attempt was made both to revisit old topics in a new light as well as to include an investigation into new frontiers.

The first set of articles propose treatment paradigms predicated on clinical data. Aarabi, et al., and Levy focus on penetrating craniocerebral injuries, deriving prognostic factors for the outcomes of epilepsy and Glasgow Outcome Scale scores. Kim, et al., investigate the outcome of pediatric head injury suffered in falls. Interestingly, these authors found that poor outcomes do occur after falls from low height, and they urge the clinician to have a low threshold of suspicion for intracranial pathological lesions in evaluating these patients. Larson, et al., provide a review of traumatic intracranial aneurysms associated with blunt injury. These lesions are more common in children, although their true overall incidence remains unknown.

The second grouping of articles, by Farace and Alves as well as Kraus, et al., examine gender differences in head injury. Both studies found that women were more likely to suffer a worse outcome from head injury. Although largely ignored in most prospective trials and entirely discounted in clinical trials, gender differences in outcome from head injury can provide insight into the pathophysiology of both injury and recovery from injury as well as

aid future clinical trials through randomization schemes designed to include gender. These articles also bring to mind the commonly seen biases in study design and the difficulties inherent in comparing two patient cohorts that may be less similar than they seem.

The final set of articles examines the pathophysiological bases for head injury and presents various means of addressing these processes. It begins with a plea by Dr. Kamano for further investigation on the use of steroids for severe head injury. While one of only three standards in the **Guidelines for the Management of Severe Head Injury** states that "the use of glucocorticoids is not recommended for improving outcome in patients with severe head injury," Dr. Kamano provides a well-constructed argument for the reexamination of this statement. One of the purposes of the guidelines effort is to stir additional investigation; this review should result in debate on this topic and, one hopes, further study. Moreno, et al., address the role of vascular dynamics in outcome following head injury and find prognostic information in transcranial Doppler ultrasonography. Winkler, et al., find that changes in cerebral blood flow and glucose metabolism can be curiously effected by cranioplasty, resulting in improved outcomes. Last, methodical research by Reinert, et al., shows that extracellular potassium concentration is at least associated with poor outcome.