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Oral Presentation

Post-Traumatic Epilepsy-Epidemiology, Pathophysiology and Principles of Treatment

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Abstract

Traumatic head injury is the underlying cause of approximately 5% of all persons with epilepsy and is the major cause of epilepsies starting in young adulthood. Penetrating head injury, particularly among soldiers, carries a risk of almost 50% of developing post-traumatic epilepsy (PTE), mostly within 6 months to two years after the trauma. Early seizures (within one week of the trauma) are dependent on the severity of the trauma and do not independently contribute to the risk of developing PTE. The pathophysiology of development of chronic seizures is not fully understood. The process of epileptogenesis and post injury recovery share some characteristics such as neurogenesis and axonal sprouting. Unspecific hippocampal damage as well as hemosiderin remnants from bleedings may play a role. There is no evidence supporting routine use of antiepileptic drugs beyond the first week after trauma for seizure prophylaxis. Treatment after the first seizure beyond 1-2 weeks after the trauma is indicated because the risk of seizure recurrence within 2 years is almost 90%. As of yet, no anticonvulsant has been singled out as being particularly effective in PTE. Seizure remission with medical treatment can be expected in 25%- 40% of the patients. Epilepsy surgery may be an option, but seems to be less effective when compared with other etiologies such as hippocampal sclerosis or benign tumors.

Keywords: Traumatic Head Injury, Epilepsy, Trauma.

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