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Oral Presentation

Update on Guidelines for the Treatment of Penetrating Brain Injury

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Abstract

Conceptually Traumatic Brain Injury (TBI) can be classified from a mechanistic perspective as: 1) closed, 2) penetrating, 3) blast, and 4) crush injuries. Thus, TBI is a heterogeneous disease and each type of brain injury has different characteristic features often necessitating different approaches to management. The first edition of the guidelines for management and prognosis of penetrating brain injury was published in 2001. An update on these guidelines is currently in preparation and is coordinated by Dr. James Ecklund and Dr. Beverly Walters in the US. Substantial advances have been made in diagnostic imaging for TBI, also for penetrating brain injury (PBI). A specific feature relevant to PBI is a traumatic intracranial aneurysm (TICA) which is reported in variable but sometimes high frequencies. Any patient with an intracerebral hematoma or a missile track crossing one of the major arteries should be considered at increased risk for a TICA and appropriate imaging should be implemented. The risk of intracranial infection and of seizures following PBI is sufficiently high to warrant prophylactic medication. In the absence of a mass lesion, surgical therapy may be limited to more superficial debridement and wound closure. Prognostic analysis is less well developed compared to the field of closed TBI. Nevertheless, CT features represent one of the main and most objective predictors following PBI. Prognostic CT features are different in PBI compared to closed TBI. This presentation will present an overview of the current evidence for imaging, management and prognosis of Penetrating Brain Injury.

Keywords: Brain Injury, Guideline, PBI, CT.

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