

Review Articles

The Role of the Beta-Amyloid Precursor Protein in the Diagnosis of Diffuse Axonal Injury

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Diffuse axonal injury (DAI) is a distinct clinical-pathological entity in the closed head injuries, where very often, the macroscopic lesion of the brain tissue cannot be found. Hence, in those cases the microscopic examination is of a huge importance. Using the conventional staining techniques the axonal injuries can be perceived only if there has been a survival of up to 24 hours (hematoxylin and eosin staining), or 12 to 18 hours (silver impregnation methods). With the introduction of immunohistochemistry using antibodies against β -Amyloid Precursor Protein (β -APP), this period has been shortened to 3 hours, even less. In the present paper, a review on the role of β -APP immunohistochemistry in the diagnosis of DAI is presented. This review shows that β -APP immunohistochemistry can be a very powerful tool in diagnosing the axonal injuries, what is of a special significance for the forensic medicine practice.

Key words: diffuse axonal injury, β -amyloid precursor protein, immunohistochemistry, forensic medicine.