Traumatic intracerebral hemorrhage diagnosis

see also Intracerebral hemorrhage diagnosis

Intraparenchymal hemorrhage diagnosis

Computed tomography

Traumatic Intraparenchymal hemorrhage computed tomography

It is a bruise of the brain tissue.

Like bruises in other tissues, cerebral contusion can be associated with multiple microhemorrhages, small blood vessel leaks into brain tissue.

The expression of caspase 3 and HAX-1 after cerebral contusion has time sequential regularity, which may provide new evidence for forensic diagnosis of cerebral contusion interval [1].

Results revealed that at 2 hours after cerebral contusion and laceration injury, aquaporin 4 expression significantly increased, brain water content and blood-brain barrier permeability increased, and the number of pinocytotic vesicles in cerebral microvascular endothelial cells increased. In addition, the mitochondrial accumulation was observed. As contusion and laceration injury became aggravated, aquaporin 4 expression continued to increase, brain water content and blood-brain barrier permeability gradually increased, brain capillary endothelial cells and astrocytes swelled, and capillary basement membrane injury gradually increased. The above changes were most apparent at 12 hours after injury, after which they gradually attenuated. Aquaporin 4 expression positively correlated with brain water content and the blood-brain barrier index. This experimental findings indicate that increasing aquaporin 4 expression and blood-brain barrier permeability after cerebral contusion and laceration injury in humans is involved in the formation of brain edema [2].

1)
Li ZR, Teng DH, Dong GK, Yin WJ, Cai HX. [Expression of caspase-3 and HAX-1 after cerebral contusion in rat]. Fa Yi Xue Za Zhi. 2015 Feb;31(1):7-10, 14. Chinese. PubMed PMID: 26058125.
2)
Li X, Han Y, Xu H, Sun Z, Zhou Z, Long X, Yang Y, Zou L. Aquaporin 4 expression and ultrastructure of the blood-brain barrier following cerebral contusion injury. Neural Regen Res. 2013 Feb 5;8(4):338-45. doi: 10.3969/j.issn.1673-5374.2013.04.006. PubMed PMID: 25206674; PubMed Central PMCID: PMC4107528.