

rat's brain. Animals were assigned to three sacrifice endpoints: 24 hrs, 72 hrs, and 168 hrs. Neurological and behavioral assessments (Garcia's test, beam-walking, Rotarod, and elevated-plus-maze) were performed at 3, 6, 24, 72, and 168 hours post-injury. We performed angiography to assess presence of cerebral vasospasm. Damage to brain tissue was assessed by an overall histological severity (OHS).

Results: Except for beam-walking, OHS significantly correlated with the other three behavioral outcome. OHS correlated most strongly with anxiety at the baseline and 6 hrs post-injury ($r_{\text{baseline}} = -0.75$, $r_{6 \text{ hrs}} = 0.85$; $P < 0.05$). Median hemispheric differences for contrast peak values (CPV), obtained from DSA studies, for 24, 72, and 168 hrs endpoints were 3.45%, 3.05% and 0.2%, respectively, with significant differences at 24 vs. 168 hours ($p < 0.05$) and 72 vs. 168 hours ($P < 0.01$). The differences in CPV were associated with the study endpoints ($P < 0.01$).

Conclusion: We successfully established a preclinical rat model of bTBI with characteristics similar to those observed in clinical cases. This new method may be useful for future investigations aimed at understanding bTBI pathophysiology.

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Neuro Critical Care 1

Successful treatment of spontaneous intracranial hypotension with targeted thoracic epidural patch: reversible coma with reversible corpus callosum splenium lesion

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A 55-year-old man presented with spontaneous intracranial hypotension (SIH) complicated with reversible diffusion restriction in the splenium of the corpus callosum and subdural fluid collections. Cerebrospinal fluid leakage was detected in thoracic spine and the patient was treated with targeted epidural blood patch. SIH can be life threatening and result in different clinical manifestations from mild orthostatic headache to deep coma. SIH is caused by cerebrospinal fluid leakage and results mostly in orthostatic headache. It has been increasingly recognized concomitant with the improved sensitivity of imaging modalities. To our knowledge, this is the first report showing reversible diffusion restriction in the splenium of corpus callosum in SIH; however, it has been described in various disorders. Although the most common clinical manifestation is orthostatic headache, SIH presenting with confusion and coma has rarely been reported. A change in headache pattern or consciousness should alert the physician to the possibility of development of complications, such as subdural hematoma or cerebral venous thrombosis. With the advent of MR myelography, targeted epidural blood patches may be considered as the first-line treatment, directed at the identified spinal CSF leaks. The treatment epidural blood patches, preferably delivered at the level of spinal CSF leaks can be life saving and should be reserved for intractable case.

Fig 1. sagging of the splenium of the corpus callosum, absence of suprasellar cistern and increase of the pituitary gland volume.

Fig. 2. MR myelography shows perineural root sleeve cyst.

Fig. 3. Suprasellar cistern has become visible and volume of the pituitary gland has decreased after treatment.

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