Effect of baculovirus P35 protein on apoptosis in brain tissue of rats with acute cerebral infarction

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ABSTRACT. We explored the effect of baculovirus P35 protein on apoptosis in the brain tissue of rats with acute cerebral infarction (ACI). A rat model of middle cerebral artery infarction was created. The rats were randomly divided into sham, model, and treatment groups. Baculovirus P35 protein was injected into the intracranial arteries of the treatment group rats. The rats in the model group were given an equal volume of phosphate-buffered saline. The rats were sacrificed after 72 h and the brain tissue was separated. The levels of caspase-3, Bcl-2, and Bax mRNA, the brain cell apoptosis index, and the infarct size were determined. After 72 h, the levels of caspase-3 and Bax mRNA in the model and treatment groups were significantly greater than in the sham group, and the levels of Bcl-2 mRNA were significantly smaller (P < 0.05). The levels of caspase-3 and Bax mRNA were significantly lower in the treatment group than in the model group, and the level of Bcl-2 mRNA was significantly greater (P < 0.05). Compared with the sham group, the brain tissue apoptosis index and the cerebral infarction area increased significantly in the model and treatment groups (P < 0.05). The brain tissue apoptosis index and cerebral infarction area in the treatment group were significantly lower than in the model group.
(P < 0.05). Baculovirus P35 protein can effectively inhibit brain cell apoptosis in rats with ACI. It delayed apoptosis and necrosis in subjects with ACI tissue and had a protective effect on brain tissue.

**Key words:** Acute cerebral infarction; Baculovirus P35 protein; Apoptosis