Abstract

Activation of astrocytes or astrogliosis is a prominent component of the inflammatory response and an indicator of injury in the brain. These astrocytes produce a large array of inflammatory mediators, growth and neuroprotective factors. This study was an investigation from astrocyte (GFAP) response and TGF-β1 involvement during VSV acute encephalitis using immunohistochemistry to verify relation between astrocytes and TGF-β1. Animals developed symptoms around 6th day after VSV inoculation. Viral proteins were mainly detected at olfactory bulb, ventricular cell layer and disseminated to hippocampus, mesencephalon and diecephalon areas and brain stem. Also at 6th day post inoculation GFAP and TGF-B1 staining was observed in good association with virus-detected areas of brain. However, in mice with severe symptoms we observed reduction in the intensity of GFAP labeling at the same areas where TGF-B1 upregulation was observed. These areas show correlation with areas of necrosis and where are astrocytes with degenerative aspect. We observed TGF-B1 staining in damaged astrocytes, suggesting an effort of those cells in controlling inflammation in acute phase of VSV encephalitis.

Keywords

Astrocytes, gliosis, TGF-B, vesicular stomatitis virus.