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LETTER

Serum Homer1 is a Novel Biomarker for Predicting the Clinical Outcomes of Acute Ischemic Stroke Patients [Letter]

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Dear editor

We have read the paper written by Weihao Lv et al regarding the relationship between serum Homer1 levels as a new biomarker in Acute Ischemic Stroke (AIS) patients.[1] We congratulate all authors who have provided important information regarding the role of the Homer1 biomarker on patient prognosis AIS, inflammation caused by intracerebral hemorrhage (ICH) is one of the main causes of high mortality rates and poor prognosis of AIS patients. The Homer scaffolding protein 1 (Homer1) biomarker plays an important role in the protection of ischemic encephalopathy and neurodegenerative diseases and reduces mitochondrial stress caused by endoplasmic reticulum stress after ischemia-reperfusion injury.[2]

The study conducted by Weihao Lv et al used a prospective cohort design by investigating the relationship between serum Homer1 levels with the Treatment of Acute Stroke (TOAST) test and enzyme immunosorbent on the functional outcomes of post-AIS patients.[1] This method is in accordance with the aim of the study. This, as additional information that the expression of Homer1 can also be analyzed using interactive analysis of gene expression profiles and Oncomine analysis where the prognostic value of Homer1 expression is validated using RT-PCR. Homer1 is a postsynaptic scaffolding protein that has two isoforms, the short variant Homer1a and the long variant Homer1b/c which play an important role in the regulation of excitatory synaptic structure and function as well as intracellular signal transduction. Homer1 expression is not only observed in the nervous system but is also observed in various peripheral tissues, including skeletal muscle, myocardium, and vascular endothelium.[3]

In this study, Weihao Lv et al found that the Homer1 serum levels in AIS patients when admitted to hospital were positively correlated with their severity, where the optimal limit for Homer1 serum levels could be used as an additional diagnostic indicator for AIS patients.[1] This could happen because Homer scaffold protein 1 (Homer1) has anti-inflammatory properties and protects against ischemic injury.[4] However, overexpression of serum Homer1 can promote the conversion of astrocyte phenotype from A1 to A2 after intracerebral hemorrhage (ICH) thereby inhibiting the ICH-induced inflammatory response, meaning protein administration Homer1 can reduce the inflammatory response to reduce cell apoptosis in the brain and improve outcomes in patients with ICH.[2]

In conclusion, we agree that Homer1 serum concentrations have a high predictive value for neurobehavioral outcomes after AIS stroke.[1] This occurs because Homer1 improves ischemic stroke by inhibiting nerve damage and neuroinflammation caused by necroptosis. In addition, Homer1 also significantly reduces mortality. Cells and nerve inflammation, reduces the area of cerebral infarction, and improves the symptoms of neurological deficits. However, if Homer1 protein is administered intravascularly, clinical practice still requires further research into pharmacodynamic changes that can disrupt liver metabolism and its toxic effects.[5]

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Disclosure

The author reports no conflicts of interest in this communication.

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