Differential Expression of Serum TUG1, LINC00657, miR-9, and miR-106a in Diabetic Patients With and Without ischemic Stroke

المشاركون فى البحث:

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Abstract

Background: Ischemic stroke is one of the serious complications of diabetes. Non-coding RNAs are established as promising biomarkers for diabetes and its complications. The present research investigated the expression profiles of serum TUG1, LINC00657, miR-9, and miR-106a in diabetic patients with and without stroke. **Methods:** A total of 75 diabetic patients without stroke, 77 patients with stroke, and 71 healthy controls were recruited in the current study. The serum expression levels of TUG1, LINC00657, miR-9, and miR-106a were assessed using quantitative real-time polymerase chain reaction assays. **Results:** We observed significant high expression levels of LINC00657 and miR-9 in the serum of diabetic patients without stroke compared to control participants. At the same time, we found marked increases of serum TUG1, LINC00657, and miR-9 and a marked decrease of serum miR-106a in diabetic patients who had stroke relative to those without stroke. Also, we revealed positive correlations between each of TUG1, LINC00657, and miR-9 and the National Institutes of Health Stroke Scale (NIHSS). However, there was a negative correlation between miR-106a and NIHSS. Finally, we demonstrated a negative correlation between LINC00657 and miR-106a in diabetic patients with stroke. **Conclusion:** Serum non-coding RNAs, TUG1, LINC00657, miR-9, and miR-106a displayed potential as novel molecular biomarkers for diabetes complicated with stroke, suggesting that they might be new therapeutic targets for the treatment of diabetic patients with stroke.

Keywords: TUG1, LINC00657, miR-9, miR-106a, stroke