**INTRODUCTION**

Ischemic stroke is one of the common causes of disability and death. The pathogenesis of ischemic stroke process becomes worse immediately after oxidative stress occurs. Several antioxidants were examined to enhance the defense system against nerve cell degeneration in order to prevent the progression of the harmful mechanisms involved in ischemia. Quercetin is a flavonoid with an antioxidant ability.

**OBJECTIVES**

This study was aimed to investigate quercetin administration on the behavioral functions (motor and sensory) and expression of melanocortin-4 receptor (MC4R) in mice with ischemic stroke.

**CONCLUSIONS**

Quercetin administration after ischemic stroke improves behavioral function, possibly through the upregulation of MC4R in the brain.

**RESULTS AND DISCUSSION**

[Graphs and tables showing results and discussion, including figures 1-5 and references 1-7.]