Ninjin’yoeito ameliorates behavioral declines in aged C57BL/6J mice

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Age-related declines in physical performance (physical frailty) contribute to an increased risk for adverse events in elderly people. Ninjin’yoeito (NYT), a traditional Japanese medicine, has been used to improve physical decline in convalescent patients, symptoms of fatigue, anorexia, and anemia. In this study, we evaluated whether treatment with NYT has beneficial effects on the behavioral alterations in aged C57BL/6J mice.

We used 7-month-old male C57BL/6J mice and 20-month-old male C57BL/6J mice as the young and aged mice, respectively. Aged mice were divided into the following three groups: the control group fed a CRF-6 diet and the treatment groups fed a CRF-6 diet containing either 1% or 3% NYT extract (purchased from TSUMURA & Co.). Young mice were also fed a CRF-6 diet. After 10–11 weeks of treatment, we performed behavioral assays.

We found that motor coordination (rotarod test), forelimb grip strength (grip strength test), and self-care motivation (sucrose splash test) declined in the aged mice in the control group as compared with young mice; however, these decrements were alleviated with NYT treatment.

These results demonstrate the effects of NYT in aged mice, implying that NYT has the potential to be a useful agent for improving age-related behavioral declines.