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Topic: AS07 Aging and Neurodegenerative Disorders

THE EFFECTS OF BILATERAL TRANSAURICULAR VAGUS NERVE STIMULATION ON LPS-INDUCED ACUTE INFLAMMATION AND PAIN BEHAVIOR

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Autonomic dysfunction might be addressed by cholinergic anti-inflammatory therapy. The vagus nerve, the major nerve of the parasympathetic nervous system, may modulate how the immune system reacts to such inflammatory processes. Transauricular vagus nerve stimulation (tVNS), a peripheral and minimally invasive neuromodulation approach, modulates multiple areas of the brain by activating reflex circuits in the central nervous system. The purpose of this study was to investigate the effects of tVNS on pain behavior and inflammation caused by a moderate dosage of lipopolysaccharide (LPS). Mature male Sprague Dawley (180-200 gr) rats were divided into four groups (n = 32): sham, tVNS, LPS, and LPS + tVNS. Periorbital pain thresholds were examined by Von Frey Filaments and anxiety was measured by elevated plus maze. tVNS or a sham was carried out for 30 minutes under anesthesia. Rats were sacrificed, and serum samples for ELISA assays were taken. The acute inflammation caused by LPS reduced mobility, decreased Von Frey filament pain thresholds, and increased freezing and anxiety behavior. tVNS reduced freezing but did not reverse pain thresholds or elevated plus maze results. Serum haptoglobulin, IL-6 and CGRP levels were significantly elavated in the LPS group. tVNS did not exert statistically significant changes in aforementioned inflammatory biomarkers. Acute systemic inflammation induced by a single dose of moderate LPS is associated with decreased periorbital pain thresholds and elevated inflammatory biomarkers. A single 30-minute tVNS application had no effect on either circulating inflammatory biomarkers or pain behavioral alterations. This study was supported by Gazi University Scientific Research Projects unit (TOA-2022-8017 and TGA-2022-7857).

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RETROSPECTIVE ANALYSIS OF GLYCOSYLATED HEMOGLOBIN VALUES IN ALZHEIMER'S PATIENTS

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Alzheimer's disease (AD) is recognized by the World Health Organization as a global public health priority. High levels of HbA1c were found to be associated with high white matter hyperintensity, which suggest a possible role of HbA1c behind the decline in memory inelderly patients with diabetes.The aim of this study was to examine the glycosylated hemoglobin (HbA1c) levels in patients with Alzheimer's disease and to investigate its possible effect. Glycolyzed hemoglobin HbA1c values were compared retrospectively by including 30 patients aged between 62 and 90 who applied to Gazi Hospital Neurology Clinic between 2022 and 2023 and were diagnosed with Alzheimer's, and 30 control groups aged 60-85 years. Findings were evaluated with the Mann-Whitney U test. The median, minimum and maximum values of HbA1c levels of the experimental and control groups were taken. The median, minimum and maximum HbA1c values of Alzheimer's patients were 6.1(5.7-9.1%) (%) and 5.5 (4.6-5.9) in the control group. It was determined that the HbA1c elevation in the patient group was statistically significant ($p < 0.001$). As a result, HbA1c value was found to be significantly higher in Alzheimer's patients. found. This result obtained from our study; It is thought that high HbA1c levels may play a role in the pathology of Alzheimer's disease.

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