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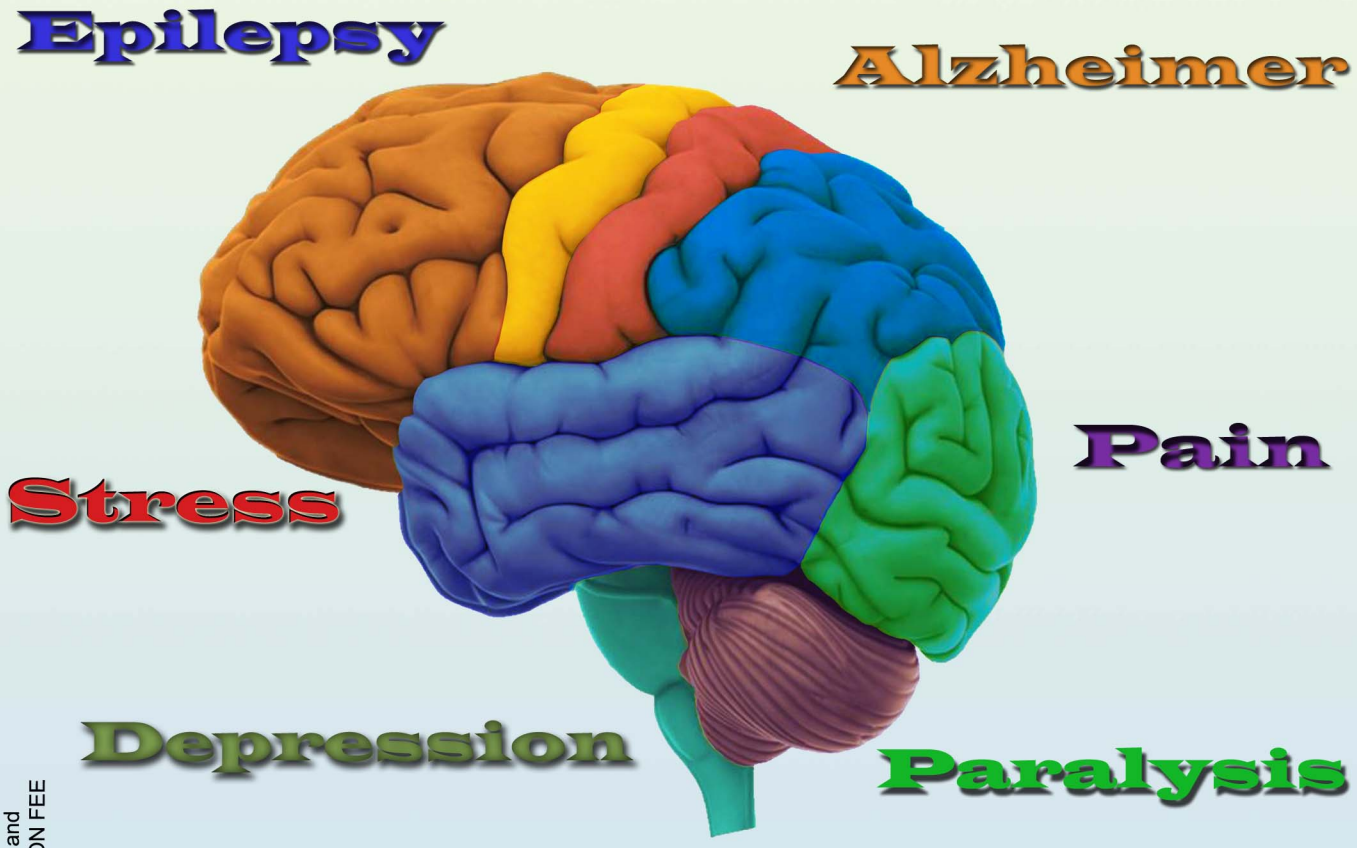

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AIM AND SCOPES
Journal of Cellular Neuroscience and Oxidative Stress is an online journal that publishes original research articles, reviews and short reviews on the molecular basis of biophysical, physiological and pharmacological processes that regulate cellular function, and the control or alteration of these processes by the action of receptors, neurotransmitters, second messengers, cation, anions, drugs or disease.

Areas of particular interest are four topics. They are;

A- Ion Channels (Na^+- K^+ Channels, Cl^- channels, Ca^{2+} channels, ADP-Ribose and metabolism of NAD^+, Patch-Clamp applications)

B- Oxidative Stress (Antioxidant vitamins, antioxidant enzymes, metabolism of nitric oxide, oxidative stress, biophysics, biochemistry and physiology of free oxygen radicals)

C- Interaction Between Oxidative Stress and Ion Channels in Neuroscience
(Effects of the oxidative stress on the activation of the voltage sensitive cation channels, effect of ADP-Ribose and NAD^+ on activation of the cation channels which are sensitive to voltage, effect of the oxidative stress on activation of the TRP channels in neurodegenerative diseases such Parkinson's and Alzheimer's diseases)

D- Gene and Oxidative Stress
(Gene abnormalities. Interaction between gene and free radicals. Gene anomalies and iron. Role of radiation and cancer on gene polymorphism)

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Keywords
Ion channels, cell biochemistry, biophysics, calcium signaling, cellular function, cellular physiology, metabolism, apoptosis, lipid peroxidation, nitric oxide, ageing, antioxidants, neuropathy, traumatic brain injury, pain, spinal cord injury, Alzheimer's Disease, Parkinson's Disease.

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Oral Presentation 11

Effects of cell phone (900 and 1800 MHz) and Wi-Fi (2450 MHz) frequencies on oxidative stress in laryngeal mucosa

Sinem GÖKÇE KÜTÜK
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The trachea has a composite structure with individual and incomplete cartilaginous rings. Deformation of trachea through surgical process and mechanical applications induces injury of laryngotracheal mucosa (Hussain et al. 2015). Results of recent studies studying the oxidative related values in larynx cancer indicated the importance of oxidative stress.

Main reactive oxygen species (ROS) are superoxide radical, hydroxyl radical and singlet oxygen. Production normal level of ROS is a physiological process, because the ROS has been using for physiological functions such as killing bacteria and viruses in the body. The excessive production of ROS is scavenged by enzymatic and non-enzymatic antioxidants. 900 and 1800 MHz frequencies are used in cell phones in several countries including Turkey, although 2450 MHz has been using as Wi-Fi frequency in the countries. The non-ionize cell phone and Wi-Fi frequencies induce their hazardous effects in cells including laryngeal mucosa by excessive production of ROS. Results of recent papers indicated that the antioxidant levels such as glutathione and glutathione peroxidase were decreased in the laryngeal mucosa of animals by the cell phone and Wi-Fi exposures, but oxidative stress levels were increased by the exposures (Aynalı et al. 2013). In the oral presentation, I will summarize the results of recent papers on oxidative stress and antioxidants in neurons and cells including laryngeal mucosa.

In conclusion, exposure to the frequencies is accompanied by increased oxidative stress, suggesting that oxidative stress is a cause of electromagnetic radiation-induced laryngotracheal pathophysiology. For clarifying the subject, future studies need on the Wi-Fi and mobile phone frequencies-induced oxidative stress in larynx of animal and human

Key words: Antioxidants; Laryngeal mucosa; Wi-Fi; Mobile phone; Oxidative stress.

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