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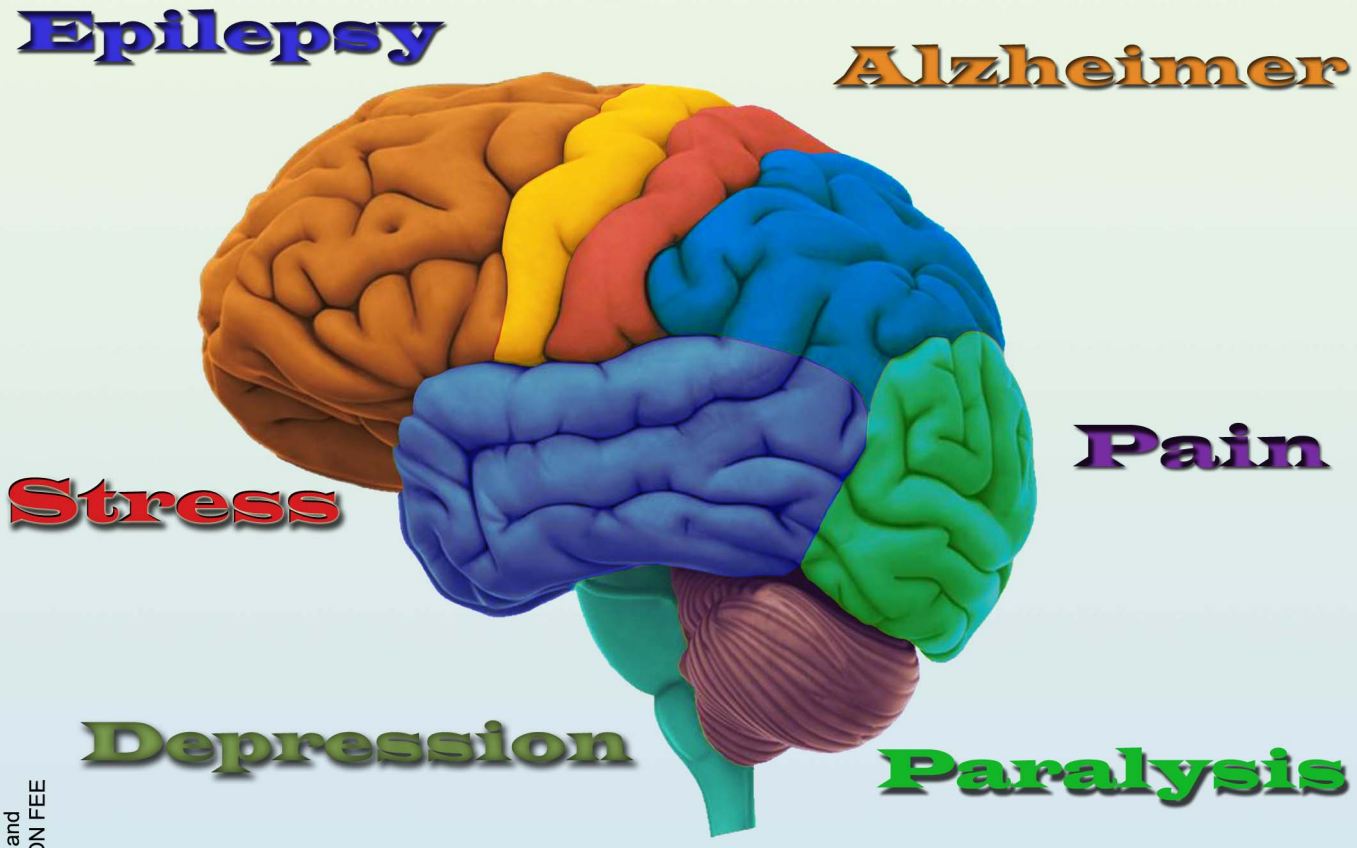

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AIM AND SCOPES
Journal of Cellular Neuroscience and Oxidative Stress is an online journal that publishes original research articles, reviews and short reviews on the molecular basis of biophysical, physiological and pharmacological processes that regulate 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 8

Involvement of TRP channels on fibromyalgia-induced pain

Atalay DOĞRU
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Fibromyalgia (FM) is a common chronic pain syndrome affecting up to 2% of the adult population. Several factors such as excessive oxidative stress and overload calcium ion (Ca^{2+}) influx play main roles in the etiology of FM. Several pharmaceutical drugs such as antidepressants and voltage-gated calcium channel blockers are recommended for the treatment of FM; however, they fail to produce a satisfactory response in patients with FM because of the unclear etiology of the disease. Transient receptor potential (TRP) channels have six subfamilies and 27 members in human. Most of these channels are responsible in dorsal root ganglia (DRG) neurons for the Ca^{2+} permeation especially in neuronal cells. Expression level of the TRPM2 and TRPV1 channels are high in the DRG neurons and they show oxidative stress dependent activation (Tan and McNaughton 2016; Santos et al. 2018). The TRPM2 and TRPV1 channel expression levels in the DRG increased in different types of pain. Selenium as an antioxidant trace element is implicated as a neuroprotective agent in peripheral pain through the inhibition of apoptosis and regulation of the TRPM2 and TRPV1 channels (Kahya et al. 2017). Since a decade, a recent theory have argued that both supporting of intracellular antioxidant system and extracellular antioxidant administration may helpful in fibromyalgia for the inhibition of TRP channels mediated Ca^{2+} influx (Yüksel et al. 2017). In the oral presentation, I discussed novel effects of selenium on the treatment of irregular oxidative status and fibromyalgia by the regulation of TRPM2 and TRPV1 channels in rats.

In conclusion, present literature information indicated that protective effects of selenium on TRPM2 and TRPV1 channels may novel approach to treat FM-induced pain and mitochondrial oxidative stress. However, the subject should be clarified by further studies.

Keywords: Pain; Fibromyalgia; Ca^{2+} signaling; TRP channels; Selenium.

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