



Neuronal Laminopathy as a new pathophysio- logic feature of Alzhei- mer's Disease: Cause and consequences!

SEMINAR & VISITING SPEAKER SERIES

DATE

Friday, January 29, 2021
9:00AM

ZOOM LINK

<https://us02web.zoom.us/j/83948652686?pwd=OFIURDh4dUZtbHh6K3JwaWdjTUcxQT09>

MEETING ID

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PASSCODE

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SPEAKER

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BIO

Dr. Eftekhar Eftekharpour is an Associate Professor in the Department of Physiology and Pathophysiology, and the Regenerative Medicine Program, in Rady Faculty of Health Sciences, University of Manitoba. He is a cellular neurobiologist with interest in molecular biology, biochemistry and subcellular neuroimaging.

Eftekhar holds a BSc in Animal Sciences and MSc in Human Histology from Tehran University of Medical Sciences and is a PhD graduate from Department of Anatomy and Cell biology, University of Saskatchewan. His independent research at the University of Manitoba started in 2014 following a post-doctoral training in neurotrauma at University of Toronto. His research is focused on molecular mechanisms that regulate neuronal autophagy and apoptosis. Using molecular assays and imaging tools, his research has uncovered new concepts in structure and function of lysosome and nucleus in the context of in vitro and in

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vivo models, as well as human diseases. These new discoveries are currently used for translational research in the fields of neurotrauma and neurodegenerative diseases. Eftekhar's research is supported by local, national and international funding agencies.

RESEARCH

Despite identification of few mechanisms of neuronal cell death in pathophysiology of Alzheimer's disease, there is currently no effective treatments available, therefore finding new druggable targets remains an unmet clinical need. Neuronal laminopathy is a newly identified feature of AD. Nuclear lamina is a protein network at the interface of nuclear envelope and chromatin and plays an important role in regulation of gene expression. Damage to nuclear lamina has been shown to cause epigenetic changes and expression of ancient retroviruses, resulting in neuronal death. We examine the molecular systems that affect neuronal nuclei integrity and downstream changes in in vitro and in vivo models of neurodegeneration. Comparing normal aging and Alzheimer's disease, our research is aiming to identify potential players in induction of such changes. This research will advance our knowledge in basic neurobiology and may lead to identification of new therapies.

OBJECTIVES

1. To review the pathophysiology of Alzheimer's Disease
2. To define neuronal laminopathy in Alzheimer's Disease.
3. To discuss the molecular players in induction of neuronal laminopathy and potential therapeutic interventions.hindlimb nerve activity.