



Nuclear Laminopathy: Another Way to Die for Neurons in Alzheimer's Disease

SEMINAR & VISITING SPEAKER SERIES

DATE

Friday, March 27, 2020
9:00AM

LOCATION

PX236/238 PsychHealth Building

SPEAKER

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Pathophysiology

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, Iran 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 and 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 vivo models. 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.

ABSTRACT

Despite the identification of few mechanisms of neuronal cell death in pathophysiology of Alzheimer's disease, there is currently no treatments available. Neuronal laminopathy is a newly identified feature of AD. This is a mechanism by which stress factors lead to epigenetic changes, resulting in expression of ancient retroviruses and induction of 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 ageing 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 biology of neurons and can lead to identification of new therapies.

OBJECTIVES

1. To review the pathophysiology of Alzheimer's Disease.
2. To describe the importance of autophagy and oxidative stress in neuronal health.
3. To define neuronal laminopathy in Alzheimer's Disease.
4. To discuss the molecular players in induction of neuronal laminopathy and potential therapeutic interventions.

For more information:

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