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**EFFECTS OF FARNESYLTRANSFERASE INHIBITORS ON ENDOTHELIAL CELL
FUNCTION IN CEREBRAL CAVERNOUS MALFORMATION**

Adam Dickson (Tam Phuong, Anthony Donato)

Division of Geriatrics, Translational Vascular Physiology Laboratory

Abstract

Cerebral Cavernous Malformations (CCM) is a rare disease that affects the endothelial cells of blood vessels in the nervous system. Genetic CCM is induced by a mutation of 3 possible genes that influence the form and function of capillaries, causing them to have increased permeability and leak into the brain. As a consequence of this leakage, lesions may form, producing symptoms such as: headaches, seizures, hemorrhaging, and neurological deficits. There is no cure for the defect and the only treatment available is to reduce symptoms. In recent work, it has been found that treatment of endothelial cells with FTI lonafarnib resulted in an increase in the resistance of endothelial cells in both siRNA scramble and siRNA CCM treated groups. Based on these findings, it was proposed that FTI may also be used to reduce the leaking of capillaries in those afflicted by CCM. Preliminary results have shown that the FTI lonafarnib increases endothelial cell resistance which suggests that farnesyltransferase signaling pathways are involved in maintaining the integrity of the endothelial cell barrier. This highlights farnesyltransferase pathways as a possible target for correction of endothelial permeability in CCM disease.