Centre for
Heart Lung Innovation
UBC and St. Paul's Hospital

Centre for Heart Lung Innovation Research in Progress (R.I.P.)

The pleiotropic properties of angiotensin II receptor AT1 blocker losartan on protective endothelial function are mechanosensing-dependent and AT2 receptor-independent

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Monday, April 17th 2023
9:00 – 10:00 a.m.

James Hogg Conference Centre RM 103
Zoom Video Conference
(Meeting ID: 693 1997 7044; Passcode: 030679)

"The well-established anti-hypertensive angiotensin II receptor type 1 (ATR1) blocker (ARB) losartan has a long list of therapeutic properties in diseases not linked to hypertension. We showed that losartan can unexpectedly activate endothelial function in vivo via the endothelial release of protective nitric oxide (NO), which is typically associated with aerobic exercise and laminar flow. Losartan is a prodrug and we suspect that its metabolites might be behind some of its unexpected therapeutic properties. We investigate losartan's endothelial NO releasing effects by comparing its activity to that of its metabolites. As AT1R blockade has been shown to trigger an Ang II 'switch' towards NO-releasing AT2R, losartan was investigated in AT2R-null mice, as well as in caveolin-1-deficient mice with blunted laminar flow-sensing machinery. Our data show that one of losartan metabolites have very unique vasorelaxation characteristics, which may be behind losartan's pleiotropism."

This event is a Self-Approved Group Learning Activity as defined by the Maintenance Certification Program of the Royal College of Physicians and Surgeons of Canada

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