



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

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



Circulating Cholesterol and Triglycerides During Chronic Muscle Wasting: Friends or Foes?

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Monday, Nov 27th, 2023
9:00 – 10:00 a.m.

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

“Lipoprotein abnormalities are linked to many pathologies, such as cardiovascular diseases. While statins have helped lower cardiovascular risk, statin-intolerance is a growing concern as they can cause myalgia along with rare major muscle side-effects, which highlights the critical interplay between lipoproteins, cholesterol and muscle homeostasis. Previously we reported abnormal circulating total cholesterol (TC) and triglycerides (TG) in patients with muscular dystrophy (MD), a group of diseases characterized by chronic muscle wasting. Herein, we investigated the effects of dietary supplements of cholesterol or TG on muscle wasting in MD mice. MD mice fed a cholesterol-rich diet showed higher TC and ultimately led to severe ambulatory dysfunction and intramuscular fatty-fibrotic infiltration. Surprisingly, despite increased circulating TG, dietary fat supplementation prevented the loss of muscle function and muscle damage in MD mice. The prevention of muscle damage by fat supplementation was related to the correction of intramuscular cholesterol metabolism abnormalities caused by MD, and changes in energy production pathways in myofibers. In summary, we found evidence that TC contributes to severer muscle damage in MD, while TG tends to be protective. Further investigation targeting energy metabolism is required to better understand this topic.”

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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