powered by

dkfz.
GERMAN
CANCER RESEARCH CENTER
IN THE HELMHOLTZ ASSOCIATION

Contribution ID: **54** Type: **1 - Scientific Poster**

Impact of aerobic exercise on adipose tissue, muscle health and sarcopenia in people with colon cancer: a CCTG CO.21 sub-study protocol

Wednesday 22 July 2026 12:55 (20 minutes)

The CCTG CO.21 Trial is a large randomized controlled trial that recently improved disease-free survival and overall survival in colon cancer patients after a 3-year structured exercise program. PURPOSE: This sub-study leverages data from the CO.21 Trial to test the effect of the first 12-months of physical activity behaviour change intervention (EG) compared to health-education group (HEG) on muscle health and body composition in adults with colon cancer using computed tomography (CT) images. METHODS: Canadian sites of the CO.21 were approached to participate. De-identified CT scans at the time of diagnosis and 12-month follow up will be collected using a secure on-line platform (https://www.globus.org/). Whole body tissue volumes were estimated based on CT images at the level of the third lumbar vertebra using DAFS Express (Voronoi Health Analytics Inc., Vancouver BC). Height-adjusted muscle quantity will be measured as skeletal muscle index (SMI), muscle quality will be measured as skeletal muscle density (SMD). Quantity of visceral adipose tissue (VAT), subcutaneous adipose tissue (SAT), and intermuscular adipose tissue (IMAT) will also be measured. The presence of sarcopenia will be measured as the proportion of patients who are sarcopenic at 1-year follow-up, based on three different approaches to defining sarcopenia (CT derived only, physical performance derived only, and CT & performance derived). We will run multiple linear regression to assess the difference between the INT and CON groups in change over time. RESULTS: To date, 13 of 21 Canadian trial sites have agreed to participate and are in the process of completing data sharing agreements. The full data set will include baseline demographic data and CT images from 465 potential participants. Final results are expected in 2026. CONCLUSION: This work will provide insight into mechanisms linking physical activity to cancer outcomes and inform future studies of optimal lifestyle interventions to improve cancer outcomes.

Keywords

Computed tomography, body composition, physical activity, CHALLENGE Trial

Conflict of Interest & Ethical Approval

yes

Abstract submitters declaration

yes

Author: Dr CATALA VILAPLANA, Ignacio (Department of Physical Therapy, University of British Columbia, Vancouver, Canada)

Co-authors: Dr LIM, Howard J. (Department of Medical Oncology, BC Cancer, Vancouver, Canada); Dr COURNEYA, Kerry S. (Faculty of Kinesiology, Sport, and Recreation, College of Health Sciences, University of Alberta, Edmonton, Canada); Dr BOOTH, Christopher M. (Division of Cancer Care and Epidemiology, Cancer Research Institute at Queen's University, Kingston, Canada); Dr REIMAN, Anthony (Department of Oncology, Saint John Regional Hospital, Horizon Health Network, Saint John, Canada); Dr JONKER, Derek J. (Ottawa Hospital Research Institute, University of Ottawa, Canada); Dr CHALCHAL, Haji Ibraheem (Medical Oncology, Allan Blair Cancer Center, Saskatchewan Cancer Agency, Regina, Canada); Dr HAIDER, Kamal (Medical Oncology, Saskatoon Cancer Center, Saskatchewan Cancer Agency, Saskatoon, Canada); Dr CHAN, Kelvin K.W. (Odette Cancer Centre, Sunnybrook Health Sciences Centre, Toronto, Canada.); Dr ABDELSALAM, Mahmoud (The Moncton Hospital, Moncton, Canada); Dr SANATANI, Michael (Division of Medical Oncology, Department of Oncology, Schulich School of Medicine and Dentistry, Western University, London, Canada); Dr CHUA, Neil S. (Alberta Heath Services and University of Alberta, Edmonton, Canada); Dr BURKES, Ronald L. (Department of Medicine, Mount Sinai Hospital, Sinai Health, Toronto, Canada); Dr LUPICHUK, Sasha (Department of Oncology, Cumming School of Medicine, University of Calgary, Calgary, Canada); Dr HUBAY, Stacey (Department of Oncology, Grand River Regional Cancer Centre, Kitchener, ON, Canada); Dr MITCHELL, Cameron J. (School of Kinesiology, University of British Columbia, Vancouver, Canada); Dr MAR, Colin (Department of Medical Imaging, BC Cancer, Vancouver, Canada.); Dr CESPEDES FELICIANO, Elizabeth M. (Kaiser Permanente Northern California Division of Research, Oakland, USA); Dr HANLEY, Gillian (Department of Obstetrics and Gynaecology, University of British Columbia, Vancouver, Canada); Dr WILLIAMS, Grant R. (Institute for Cancer Outcomes & Survivorship, University of Alabama, Birmingham, USA); Dr POPURI, Karteek (Department Computer Science, Memorial University of Newfoundland, St. John's, Canada); Dr BEG, Mirza Faisal (School of Engineering Science, Simon Fraser University, Burnaby, Canada); Dr O'CALLAGHAN, Christopher J. (Canadian Cancer Trials Group, Queens University, Kingston, Canada); Dr CAMPBELL, Kristin L. (Department of Physical Therapy, University of British Columbia, Vancouver, Canada)

Presenter: Dr CATALA VILAPLANA, Ignacio (Department of Physical Therapy, University of British Columbia, Vancouver, Canada)

Session Classification: Poster Session