The Impact of Body Composition Change on Colorectal Cancer Prognosis

PROJECT DESCRIPTION

This is a 5-year, multi-site, collaborative research project, aiming to measure the level of body composition (muscle/fat mass) and its association with colorectal cancer prognosis. This is the first large-scale study of body composition in colorectal cancer patients in North America (N=3,262) and we are intending to determine the impact of body composition (i.e. muscle and fat) change during the disease trajectory and if it is related to colorectal cancer prognosis. This study has the potential for high impact by assessing a clinically-feasible measure of body composition (which would be biologically more relevant than conventional measures of height and weight) using a novel, gold-standard tool. In the project, we will acquire previously-collected CT images from a cohort of patients diagnosed with Stage I-III invasive colorectal cancer between 2005 and 2010 at Kaiser Permanente of Northern California. The rational for identification of muscle/fat is based on Hounsfield unit (HU). Skeletal muscle and different fat components can be identified by unique HU threshold ranges respectively. Cross-sectional area (cm2) can be computed by summing tissue pixels and multiplying by pixel surface area using specific image-analysis software (Slice-O-Matic). Anonymized CT images will be transmitted from Kaiser directly to our laboratory at University of Alberta for blinded assessment of body composition. Cohort data on patient characteristics, clinical/medical factors and endpoints will be extracted and combined with clean data on body composition for final analyses. By analyzing these CT images, we aim to better understand the prognostic effect of BMI and body composition in patients with colorectal cancer, as well as to evaluate previously-established cut-off values to define sarcopenia in this patient cohort.

FACULTY-DEPARTMENT

Agricultural, Life & Environmental Sciences - Agricultural, Food and Nutritional Science

DESIRED FIELD OF (STUDENT) STUDY

Nutrition (preferably) or exercise science

INTERNSHIP LOCATION

University of Alberta Main Campus - Edmonton

NUMBER OF INTERNSHIP POSITIONS

1

Contact: Brendan Cavanagh, Internship Coordinator (Inbound)
University of Alberta International
intern@ualberta.ca

INTERNSHIP START DATE

July 4

INTERNSHIP END DATE

October 4

ARE THE DATES FLEXIBLE?

Yes, I am flexible regarding the internship dates. Selected students can contact me to request a date change

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