Canterbury Medical Research Foundation

Final report for Project Grant PRO(16/02)

Grant recipient

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Grant details

GRANT TYPE	Project Grant	FUNDING ROUND	2016 PRO
GRANT REFERENCE	PRO(16/02)	GRANT AMOUNT	$99,934

Final report

1. Report for the Scientific Assessing Committee

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CMRF Currie-PRO2016-001 Report 100319.pdf
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2. Brief summary

Obese cancer patients tend to respond more poorly to chemotherapy and have shorter survival times. One reason for this is that obesity leads to low-level chronic inflammation that fuels the development and spread of cancers. Little is known about how this systemic obesity-related inflammation affects the way cancer patients metabolise chemotherapy drugs. Therefore, this project aimed to (1) measure circulating inflammatory proteins that may be used to identify patients who will respond poorly to chemotherapy and are at high risk of worse survival, (2) use cell culture studies to explore the way obesity-related inflammatory proteins may alter chemotherapy drug metabolism by the liver, and (3) perform a pilot patient study that will use fitbits to monitor exercise during chemotherapy treatment, as well as measure circulating inflammatory proteins, drug metabolism and patient well being during chemotherapy treatment.

Variations to this project included a six month time only extension to accommodate Dr Elisabeth Phillips maternity leave, decision not to proceed with Aim 2 due to unforeseen technical difficulties and, instead, an investigation of how inflammatory adipokines regulate breast cancer cell proteomic profiles. Outcomes from this study include a large database of dysregulated breast cancer cell proteins and associated signaling pathways identified by discovery Mass Spectrometry, a rich platform of data from our breast cancer patient study (including information about patient recruitment and chemotherapy treatment i.e. dose capping, body composition, circulating inflammatory cytokines, liver function tests and physical activity monitoring), manuscripts for publication, conference presentations, and student projects. These outputs and findings from this project will form the basis for ongoing studies at the University of Otago Christchurch into the potential benefits of moderate exercise during chemotherapy treatment, and we would like to sincerely thank the CMRF for supporting this research.

3. Photographs

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M Currie.jpg
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4. Feedback