

CAF/20/02 - The gut microbiome and response to neoadjuvant chemotherapy in breast cancer.

Within our gut there are lots of bacteria, which play important roles in keeping us healthy. We believe that these bacteria may also determine which patients achieve the best response to chemotherapy. We know that diet and other interventions can change the bacteria. In this research we hope to identify certain patterns in the bacteria that link with what type of response a patient has to chemotherapy. To do this we will look at blood, stool and tumour samples from women who are having a course of chemotherapy before surgery for breast cancer. We will look into the role that the immune system, gut products and tissues surrounding the cancer may have in working alongside the bacteria. We will try to understand how the bacteria are linked with chemotherapy side effects. Overall, we hope to identify specific trends in the gut bacteria, which are associated with a better response to chemotherapy. With future research we would then hope to determine how to recreate these favourable gut bacterial trends in patients, to help them achieve the best response to chemotherapy.