A novel multimodal treatment strategy for cancer cachexia; rationale and motivation for the MENAC (Multimodal – Exercise, Nutrition and Anti-inflammatory medication for Cachexia) trial

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Background: Cancer cachexia is a multifactorial syndrome characterized by an ongoing loss of skeletal muscle mass that cannot be fully reversed by conventional nutritional support alone. Cachexia has a high prevalence in cancer and a major impact on patient physical function, morbidity and mortality. Despite the consequences of cachexia, there is no licensed treatment and no standard of care. It has been argued that the multifactorial genesis of cachexia lends itself well to therapeutic targeting through a multimodal treatment. Following a successful phase II trial, a phase III trial is underway.

Trial design: MENAC is a multicentre, open, randomized phase III study comparing multimodal intervention and standard cancer care versus standard cancer care alone. Patients treated for incurable lung and pancreatic cancer will be allocated randomly to receive the multimodal intervention, either immediately, or after endpoint at six weeks. The intervention is based on evidence to date and consists of Non-steroidal Anti-inflammatory Drugs (NSAID) and an EPA containing oral nutrition supplement to reduce inflammation, a physical exercise programme consisting of both resistance and aerobic exercises to increase anabolism, as well as dietary counselling aiming to promote energy and protein balance. The overall aim is to reduce weight loss, improve food intake and maintain physical function by establish basic supportive care for cachexia. From a patient perspective, a short-term effect will be to improve physical and psychological function and reduce symptom burden. Change in body weight is primary endpoint. Secondary endpoints are change in muscle mass (CT technique) and physical activity (ActivPAL activity meter). There are several exploratory endpoints. The trial is ongoing and patients are recruited from several sites in Europe and Canada, we aim for 240 patients. If positive, the results will be practice changing for supportive treatment of patients with cancer.

Clinical trial identification: NCT02330926

Legal entity responsible for the study: NTNU through PRC is coordinating the running of the trial.

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