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Influence of NECC (Nutrition and Exercise Center for Cancer Patients) on survival and body composition in gastrointestinal cancer patients

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Abstract

BACKGROUND:
Gastrointestinal cancer patients are particularly predisposed to develop cancer cachexia. Cachectic patients are characterized by loss of adipose tissue as well as skeletal muscle wasting which has a tremendous impact on quality of life and survival (1, 4). In terms of improvement for this multifactorial syndrome, Klinikum rechts der Isar (MRI) in Munich, Germany has founded NECC, a treatment
concept including nutrition intervention and an individual training program.

METHODS:

In this study we focused on patients with pancreatic (n = 15) and upper gastrointestinal cancer (n = 21). Body composition using CT images was analyzed initially, 4 weeks, 3 months and 6 months after initial visit of NECC (Image 1). To underline the outcome, NECC patients were matched to adequate partners who correspond in age, gender, diagnosis with TNM classification and type of surgery. The control group does not receive any further support concerning nutrition and physical exercise.

RESULTS:

Our study demonstrates that NECC has impact on overall survival (Image 2). Skeletal muscle mass index (SMAI) was higher 4 weeks and 3 months after initial visit in NECC patients compared to control group. Intramuscular adipose tissue index (IMATI) was higher after 6 months in NECC patients compared to controls.

CONCLUSION:

The NECC program influences overall survival in patients with gastrointestinal cancer. This effect was significant in patients with pancreatic cancer but not in patients with upper GI cancer. Additionally, we observed effects of NECC on SMAI 4 weeks and 3 months after initial visit and on IMATI 6 months after initial visit. The promising results should be further investigated in randomized studies.

Image 1: CT Analysis with sliceOmatic

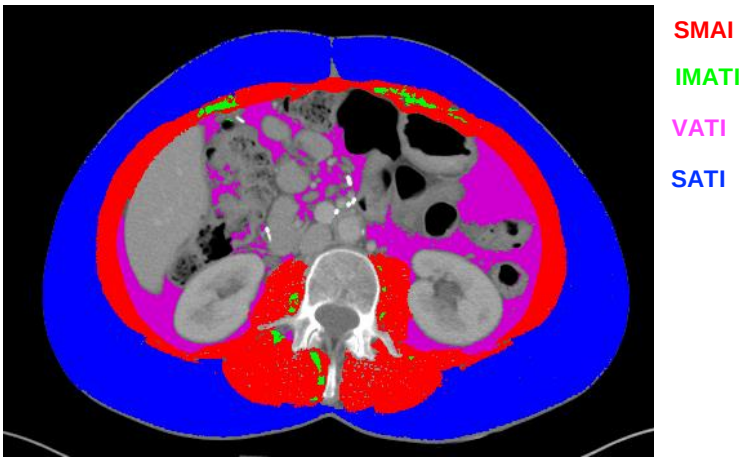
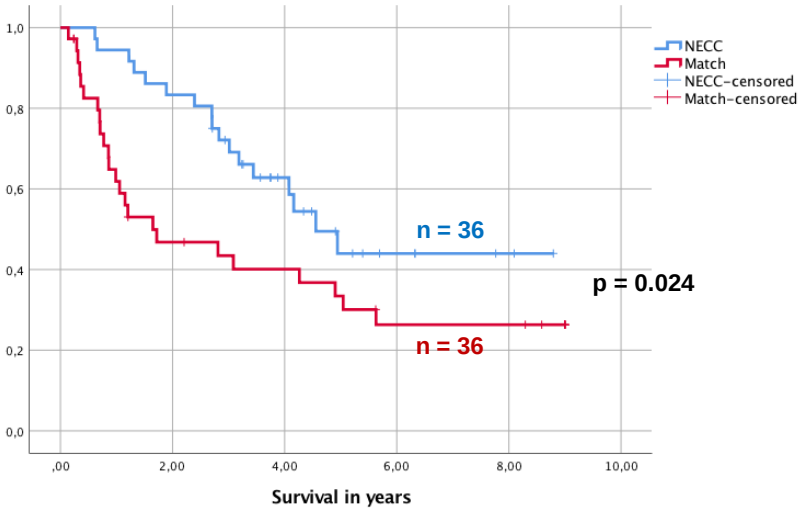


Image 2: Kaplan Meier Curve



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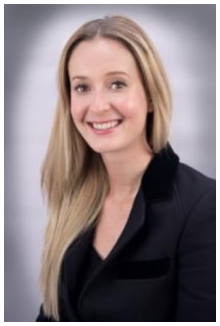
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Biography

Nina Giulia Sautter graduated from Ludwig-Maximilians Universität in Summer 2018 in the field of Dentistry.

She is passionately interested in improvement of life quality of cancer patients. In 2016 she started her thesis about the importance of physical exercise and nutrition as a part of treatment in gastrointestinal cancer patients. The results of her research show a significant impact on the patient's survival.