Citation

Maria Marta Correia, Inês Costa Moreira, Susana Couto Irving, Sónia Cabral, Bruno Magalhães, Lúcio Lara Santos, Carolina Castro, Andreia Cruz. Neoadjuvant gastric cancer treatment associated nutritional critical points for the optimization of care pathways: a systematic review. PROSPERO 2021 CRD42021266760 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42021266760

Review question

Which are the nutritional critical points for gastric cancer patients undergoing neoadjuvant treatment?

Searches

Databases: PubMed/MEDLINE; US National Library of Medicine's PubMed; ISI's Web of Knowledge; Cochrane database; Scopus

Date: From 2011 to 2021

Language: in English, Portuguese, Spanish and French

Types of study to be included

Eligible studies:

Intervention studies: Randomized clinical trials (RCT's)

Observational studies: cohort studies, case-control

Surveys

Condition or domain being studied

Gastric cancer is the fifth most diagnosed solid tumour and the third leading oncological cause of mortality worldwide (1). These patients are at a high risk of malnutrition, sarcopenia and cachexia (2). As such, it is, also, known that malnutrition is a common occurrence at diagnosis (3). Evidence has been building that an impaired nutritional status adversely influences the patient's clinical course by influencing treatment response (4) and reducing quality of life (5). Thus, the identification of nutrition related-critical points in patients undergoing neoadjuvant treatment for gastric cancer might be of relevance for patient care and clinical outcomes.

By understanding these exposures and critical determinants, it will enable better capacity for further optimization of care plans, which, in turn, might allow for a proactive approach to nutrition support and mitigation of the consequences associated to a poor nutritional status.

(1) DOI: 10.3322/caac.21660

(2) DOI: 10.1093/annonc/mdy093

(3) DOI: 10.1177/0148607113502674

(4) DOI: 10.1245/s10434-015-4820-9

(5) https://doi.org/10.1016/j.nut.2020.111135

Participants/population

Inclusion criteria for the review population are studies which include the following participants:

- Adults patients aged > 18 years old;

-Both genders;

-Patients with a reported (histologically documented) primary gastric cancer suitable for a neoadjuvant treatment approach:

? Newly diagnosed locally advanced, potentially resectable disease without any prior antitumor treatment.

? Clinically diagnosed stage cT2-4/cN-any/cM0 or cT any/cN+/cM0 (according to reported ultrasound endoscopy or enhanced CT/MRI scan).

? Eligible and reasonably suitable for potentially curative resection.

Intervention(s), exposure(s)

Nutritional Critical Points

Patient-related:

Advanced age, multiple comorbidities, sarcopenia, frailty, ECOG, baseline nutrition status, gastrointestinal and other nutritional status impairing symptoms.

Disease-related:

Disease staging, tumor location, severity, hypercatabolic state.

Healthcare-related:

Multidisciplinary team, nutrition support specialist, systematic nutritional risk screening.

Treatment-related (Exposure and Interventions):

Neoadjuvant treatment, time to surgery, polypharmacy

Comparator(s)/control

Not applicable

Context

The neoadjuvant treatment phase comprehends the therapeutic approaches in the immediate period leading to the surgery. Neoadjuvant treatments may include chemotherapy, immunotherapy, hormonal therapy, and radiation (1). The intention of neoadjuvant treatment is to reduce the tumour, to increase the possibility of a R0 resection, to attempt to treat potential micrometastatic disease and, to improve overall survival. Currently, a perioperative approach has been widely adopted in Europe. ESMO's 2016 guidelines recommend a perioperative chemotherapy regimen with a combination of platinum/fluoropyrimidine for patients with resectable gastric cancer (2). Following on from the MAGIC (3) and the FFCD/FNCLCC (4) trials the use of ECF (epirubicin, cisplatin and 5-fluorouracil) or CF (cisplatin and 5-FU) respectively are common. More recently, the FLOT4-AIO trial showed an increased benefit in the use of the FLOT (fluorouracil, leucovorin, oxaliplatin, docetaxel) scheme in the perioperative setting (5). This approach of a fluoropyrimidine–platinum doublet or triplet before surgery is recommended for a period of 2 to 3 months (2).

During neoadjuvant treatment most patients are outpatients, hence why it is crucial that this population is supported to improve the management of the disease and the treatment-related symptoms, minimizing the impact on overall nutritional status.

(1) https://doi.org/10.3322/caac.21640

(2) doi: 10.1093/annonc/mdw350. PMID: 27664260.

(3) doi: 10.1056/NEJMoa055531.

(4) DOI: 10.1200/JCO.2010.33.0597

(5) DOI: 10.1200/jco.2015.33.15_suppl.4016

Main outcome(s)
We aim to identify the critical points that interfere with a Nutrition Care Plan and Support.

Additional outcome(s)
To depict a flow chart of critical points.

Data extraction (selection and coding)
Two reviewers will be applying the eligibility criteria and selecting studies for inclusion.

Disagreements will be resolved by debating until a consensus is reached.

A master excel spreadsheet will compile the data extracted from each study selected and according to the PI(E)CO criteria.

Data extracted from papers: purpose/question, time frame, study type, sample size, methods, inclusion criteria, results, conclusions, limitations, future perspectives.

Two reviewers will be extracting and compiling the data. Internal checks will be performed to pinpoint extraction, handling and recording inconsistencies.

Disagreements will be resolved by debating until a consensus is reached.

An effort will be made to contact the corresponding author and in gathering unreported data. If available and allowed to be included in the review it will be acknowledged as “personal communication”.

Risk of bias (quality) assessment
All the team members will be involved in the reviewing of the quality assessment process. Additionally if disagreements occur the team will discuss them.

Strategy for data synthesis
Summary tables;

Meta-analysis if possible.

Analysis of subgroups or subsets
Not applicable

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Type and method of review
Systematic review

Anticipated or actual start date
12 July 2021

Anticipated completion date
31 December 2021

Funding sources/sponsors
None

Conflicts of interest

Language
English

Country
Portugal

Stage of review
Review Ongoing

Subject index terms status
Subject indexing assigned by CRD

Subject index terms
MeSH headings have not been applied to this record

Date of registration in PROSPERO
08 August 2021

Date of first submission
08 July 2021

Stage of review at time of this submission

Stage	Started	Completed
Preliminary searches	Yes	No
Piloting of the study selection process	No	No
Formal screening of search results against eligibility criteria	Yes	No
Data extraction	No	No
Risk of bias (quality) assessment	No	No
Data analysis	No	No

The record owner confirms that the information they have supplied for this submission is accurate and complete and they understand that deliberate provision of inaccurate information or omission of data may be

construed as scientific misconduct.

The record owner confirms that they will update the status of the review when it is completed and will add publication details in due course.

Versions

08 August 2021
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