Accuracy of FDG-PET and spiral CT for the early prediction of non-response to preoperative chemoradiotherapy in patients with esophageal cancer.

No registrations found.

Ethical review	Positive opinion
Status	Recruiting
Health condition type	-
Study type	Interventional

Summary

ID

NL-OMON26500

Source
NTR

Brief title
NEOPEC

Health condition

Esophageal cancer

Sponsors and support

Primary sponsor: Academic Medical Center
Source(s) of monetary or material Support: ZonMW

Intervention

Outcome measures

Primary outcome

The accuracy of serial FDG-PET and CT-scan for the early prediction of response versus non-

response to preoperative chemoradiotherapy.
The negative predictive value of serial FDG-PET and CT-scan for non-response.

These primary endpoints will quantify the diagnostic potential and clinical applicability / usefulness of each technique to predict early treatment response.

Secondary outcome

The correlation between histological tumor response in the resection specimen and long term survival.

Study description

Background summary

Background:
Surgical resection is the preferred treatment of potentially curable esophageal cancer. To improve long term patient outcome, many institutes apply neoadjuvant chemo-(radio-)therapy. In a large proportion of patients no response to chemoradiotherapy is achieved. These patients suffer from toxic and ineffective neoadjuvant treatment, while appropriate surgical therapy is delayed. For this reason a diagnostic test that allows for accurate prediction of tumor response early during chemoradiotherapy is of crucial importance. CT-scan and endoscopic ultrasonography have limited accuracy in predicting histopathologic tumor response. Data suggest that metabolic changes in tumor tissue as measured by FDG-PET predict response better.

Objective:
To compare FDG-PET and CT-scan for the early prediction of non-response to preoperative chemoradiotherapy in patients with potentially curable esophageal cancer.
Design: Prognostic accuracy study, embedded in a randomized multicenter Dutch trial comparing neoadjuvant chemoradiotherapy for 5 weeks followed by surgery versus surgery alone for esophageal cancer. This prognostic accuracy study is performed only in the neoadjuvant arm of the randomized trial (CROSS).

Intervention:
In 8 centers, 150 consecutive patients will be included in this prognostic accuracy study over a 3 year period. FDG-PET and CT-scan will be performed independently before and 2 weeks after the start of the chemoradiotherapy. All patients complete the 5 weeks regimen of neoadjuvant chemoradiotherapy, regardless the test results.

Reference standard:
Histology in the surgical resection specimen. Responders are defined as patients with < 10% viable residual tumor cells (Mandard-score).
Data analysis: Difference in accuracy (area under ROC curve) and negative predictive value

between FDG-PET and CT-scan.

Economic evaluation:
The economic evaluation has been designed as a cost-effectiveness study, comparing survival and costs associated with the use of FDG-PET (or CT-scan) to predict tumor response with survival and costs of neoadjuvant chemoradiotherapy without prediction of response (reference strategy). Patient outcome and costs after false positive and false negative results will be based on the data of the randomized clinical trial in which this accuracy study is embedded.

Study objective

To compare FDG-PET and CT-scan for the early prediction of non-response to preoperative chemoradiotherapy in patients with potentially curable esophageal cancer.

Intervention

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Contacts

Public
Academic Medical Center (AMC), Department of Surgery
P.O. Box 22660
J.M.T. Omloo
Meibergdreef 9

Amsterdam 1100 DD
The Netherlands
+31 (0)20 5663405
Scientific
Academic Medical Center (AMC), Department of Surgery
P.O. Box 22660
J.M.T. Omloo
Meibergdreef 9

Amsterdam 1100 DD
The Netherlands
+31 (0)20 5663405

Eligibility criteria

Inclusion criteria

1. Histologically proven squamous cell carcinoma, adenocarcinoma or undifferentiated carcinoma of the intrathoracic esophagus;

2. Surgical resectable (T2-3, N0-1, M0), as determined by Endoscopic Ultra Sound (EUS);

3. T1N1 are eligible. (T1N0 tumors and tumors in situ are not elligible).

Tumor length longitudinal <8 cm and radial < 5 cm;

4. If the tumor extends below the gastroesophageal(GE) junction into the proximal stomach, the bulk of the tumor must involve the esophagus or GE junction. The tumor must not extend > 2 cm into the stomach. Gastric cancers with minor involvement of the GE junction or distal esophagus are not eligible;

5. No invasion of the tracheobronchial tree or presence of tracheoesophageal fistula;

6. Non pregnant, non-lactating female patients. Sexually active patients of childbearing potential must implement effective contraceptive practices during the study when treated with chemotherapy;

7. Age < 18 and > 75;

8. ECOG performance status of 0-2;

9. Granulocytes > 1.5 x 109/l;

10. Platelets > 100 x 109/l;

11. Total bilirubin < 1.5 x ULN;

12. Creatinine <120 µmol/L;

13. FEV1 > 1,5 L;

14. Written, voluntary informed consent;

15. Patients must be accesssible to follow up and management in the treatment center;

16. Patients must sufficiently understand the Dutch language to fill in quality of life questionnaires.

Exclusion criteria

1. Past or current history of malignancy other than entry diagnosis except for non-melanomatous skin cancer, or curatively treated carcinoma in situ of the cervix or a “cured”malignancy more than 5 years prior to enrollment;

2. Previous chemotherapy and radiotherapy;

3. New York Heart Association Class lll/lV and no history of active angina. Documented myocardial infarction within 6 months preceding registration (pretreatment ECG evidence of infarct only will not exclude patients). Patients with a history of significant ventricular arrhythmia requiring medication or congestive haert failure. History of 2nd or 3rd degree heart blocks;

4. Pre-existing motor or sensory neurotoxicity greater than WHO grade 1;

5. Active infection or other serious underlying medical condition which would impair the ability of the patient to receive the planned treatment, including prior allergic reactions to drugs containing Cremophor, such as teniposide or cyclosporin;

6. Dementia or altered mental status that would prohibit the understanding and giving of informed consent;

7. Inadequate caloric- and/ or fluid intake;

8. Weight loss > 10%.

Study design

Design

Study type:	Interventional
Intervention model:	Parallel
Masking:	Open (masking not used)
Control:	Active

Recruitment

NL

Recruitment status:	Recruiting
Start date (anticipated):	01-01-2005
Enrollment:	150
Type:	Anticipated

Ethics review

Positive opinion

Date:	07-09-2005
Application type:	First submission

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
NTR-new	NL216
NTR-old	NTR253
Other	: N/A
ISRCTN	ISRCTN45750457

Study results

Summary results

N/A