A Phase 1, Open Label, Exploratory Study for the Intra-operative Imaging of Folate Receptor Alpha Positive Ovarian, Lung, Breast Cancer and Parathyroid adenomas using the Tumor Specific Imaging Agent EC17

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To assess the safety of a single dose of intravenous EC17 injection in patients with ovarian, lung, breast cancer and parathyroid adenomas. To assess concordance of fluorescent signal and tumor status of resected tissue, in the case of ovarian, lung...

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Miscellaneous and site unspecified neoplasms malignant and unspecified
Study type	Observational invasive

Summary

ID

NL-OMON40272

Source
ToetsingOnline

Brief title
Intra-operative Imaging Ovarian, Lung, Breast Cancer, Parathyroid Adenomas

Condition

- Miscellaneous and site unspecified neoplasms malignant and unspecified

Synonym
mammacarcinoma / breast cancer, parathyroid adenomas, primary non small cell lung carcinoma / lung cancer, primary ovarian carcinoma / ovarian cancer

Research involving
Human

Sponsors and support

Primary sponsor: Centre for Human Drug Research
Source(s) of monetary or material Support: Educational grant manufacturer

Intervention

Keyword: fluorescent probe, image-guided surgery, lung, ovarian and breast cancer, parathyroid adenomas

Outcome measures

Primary outcome

1. Concordance rate of at least 80% between the pathology results and the

imaging assessment

2. Safety: TEAE* using MedDRA for the administration of EC17 during the study

period (cycle of 14 days), and relevant changes in serum biochemistry, vital

signs, injection site status and general physical examination.

Secondary outcome

1. TBR signal, defined as fluorescent signal of tumor tissue compared to

fluorescence signal of tissue surrounding the tumor.

2. Number and location of FR-a+, cancer+ tumor lesions identified under normal

light only, under both normal light and fluorescent light, and under

fluorescent light only. For breast cancer this will include assessment of tumor

margins.

3. Pharmacokinetics: Cmax, T*, AUC, Tmax, Clearance

Study description

Background summary

Intra-operative identification using new real-time imaging modalities that could provide clear tumor identification and demarcation would provide a useful tool to reduce positive resection margins hence reducing rates of re-interventions and increase the identification rate of otherwise occult malignant lesions. It thereby possibly improves patient outcome and may be used in staging procedures (ovarian cancer) The use of fluorescent probes that recognize cancer-specific antigens, in conjunction with a clinical imaging system permits high sensitivity detection of any desired target within the surgical field. EC17 is an imaging agent for use in the visualization of FR-a positive cancer in situ in patients undergoing surgery. Since FR-a is normally expressed only in the proximal tubules of the kidneys, by activated macrophages, and in the choroidal plexus, the false positive detection rate is expected to be low when applied for ovarian-, lung-,breast carcinoma and parathyroid adenomas.

Study objective

To assess the safety of a single dose of intravenous EC17 injection in patients with ovarian, lung, breast cancer and parathyroid adenomas.
To assess concordance of fluorescent signal and tumor status of resected tissue, in the case of ovarian, lung and breast cancer patients.
To assess concordance of fluorescent signal and pathologic status (normal parathyroid tissue or parathyroid adenoma) of resected tissue in parathyroid adenoma patients.
To assess the efficacy of EC17 for the intra-operative detection of FR-a positive ovarian-, lung-, breast cancer and parathyroid adenomas.
Feasibility to detect tumor positive resection margins with intra-operative fluorescence imaging.

Study design

Phase 1, Open Label, Exploratory Study

Study burden and risks

Burden and risks:
Patients who could become pregnant must agree to use an acceptable form of birth control from the time of study entry until 30 days after the study.

Possible side effects of the study drug (mild abdominal discomfort, mild hypersensitivity reactions) or side effects of participation in the study (pain and black and blue mark after blood drawing, irritation of the skin at i.v. site)
Extra time investment for the screening and follow-up telephone call
Additional IV for bloodsample collection
Presence of a camera in the operating room
Phototoxicity from the light source
Nonspecificity of localization
Failure to bind to receptors
Fading of the chromophore (photobleaching)
Inability to excite the fluorescent probe or to record emission
Hypersensitivity reactions

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adults (18-64 years)
Elderly (65 years and older)

Inclusion criteria

General Inclusion Criteria
1. Subjects 18 years of age and older
2. Normal and clinically acceptable medical history, medical physical examination and vital signs at screening
3. Patients are clinically fit for surgery
4. Absence of anaphylactic reactions to EC17 or insects or allergy to fluorescein
5. No pregnancy, excluded by pregnancy test
6. The patients screening ECG and clinical laboratory test results are within normal range or are clinically insignificant
7. Absence of any psychological, familial, sociological or geographical condition potentially hampering compliance with the study protocol and follow-up schedule; those conditions should be discussed with the patient before registration in the trial
8. Before patient registration, written informed consent must be given
9. No impaired renal or liver function. Impaired renal function defined as eGFR<50 and impaired liver function defined as evidenced by greater than 3x the upper limit of normal (ULN) for ALT, AST, or total bilirubin.;Lung Cancer Specific Inclusion Criteria
1. Primary diagnosis of primary NSCLC lung cancer with FR-a positive tumor proven by biopsy planned for surgery
2. No previous thorax surgery, except for mediastinoscopy
3. No previous radiation therapy for lung cancer;Ovarian Cancer Specific Inclusion Criterium
1. Known or high clinical suspicion of primary ovarian cancer planned for either primary debulking surgery , intervaldebulking or staging procedure;Breast cancer specific criterium
1. Primary diagnosis of primary breast cancer with FR-a positive tumor proven by biopsy planned for surgery;Parathyroid adenoma
1. Primary diagnosis of parathyroid adenoma planned for parathyroidectomy

Exclusion criteria

1. Any condition that in the opinion of the investigators could potentially jeopardize the health status of the patient

Study design

Design

Study phase:	2
Study type:	Observational invasive
Masking:	Open (masking not used)

Control:	Uncontrolled
Primary purpose:	Treatment

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	17-02-2014
Enrollment:	75
Type:	Actual

Medical products/devices used

Generic name:	Artemis Handheld Camera System
Registration:	Yes - CE intended use
Product type:	Medicine
Brand name:	EC17
Generic name:	n/a

Ethics review

Approved WMO Date:	18-10-2013
Application type:	First submission
Review commission:	METC Leids Universitair Medisch Centrum (Leiden)
Approved WMO Date:	26-11-2013
Application type:	First submission
Review commission:	METC Leids Universitair Medisch Centrum (Leiden)
Approved WMO Date:	13-01-2014
Application type:	Amendment
Review commission:	METC Leids Universitair Medisch Centrum (Leiden)
Approved WMO Date:	24-03-2014
Application type:	Amendment
Review commission:	METC Leids Universitair Medisch Centrum (Leiden)

Approved WMO Date:	02-04-2014
Application type:	Amendment
Review commission:	METC Leids Universitair Medisch Centrum (Leiden)
Approved WMO Date:	06-10-2014
Application type:	Amendment
Review commission:	METC Leids Universitair Medisch Centrum (Leiden)
Approved WMO Date:	08-10-2014
Application type:	Amendment
Review commission:	METC Leids Universitair Medisch Centrum (Leiden)
Approved WMO Date:	25-11-2014
Application type:	Amendment
Review commission:	METC Leids Universitair Medisch Centrum (Leiden)
Approved WMO Date:	01-12-2014
Application type:	Amendment
Review commission:	METC Leids Universitair Medisch Centrum (Leiden)

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
EudraCT	EUCTR2013-004089-33-NL

Register	ID
CCMO	NL46477.058.13