

Towards the development of neo-antigen-targeted, personalized immunotherapies for advanced colorectal cancer patients.

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The global aim of the current project is to demonstrate that colorectal cancer (CRC) patients can benefit from neo-antigen-targeted therapies.

Ethical review	Approved WMO
Status	Pending
Health condition type	Malignant and unspecified neoplasms gastrointestinal NEC
Study type	Observational invasive

Summary

ID

NL-OMON42438

Source

ToetsingOnline

Brief title

Neo-antigen targeting in advanced colorectal cancer patients.

Condition

- Malignant and unspecified neoplasms gastrointestinal NEC

Synonym

Colorectal cancer, Colorectal carcinoma

Research involving

Human

Sponsors and support

Primary sponsor: Leids Universitair Medisch Centrum

Source(s) of monetary or material Support: Ministerie van OC&W, Bas Mulder Fonds

Intervention

Keyword: colorectal cancer, neo-antigen-targeted, personalized immunotherapies

Outcome measures

Primary outcome

The main study endpoint consists in determining the percentage of advanced CRC patients that carry T-cells with the ability to recognize cancer neo-antigens in an autologous setting. Thereby the percentage of CRC patients that can benefit from neo-antigen-targeted therapies will also be estimated.

Secondary outcome

NA

Study description

Background summary

Following the encouraging clinical responses observed in cancer patients treated with anti-CTLA-4, -PD-1, or -PD-L1 antibodies, immunotherapy shows great promise for the treatment of cancer. The blockade of co-inhibitory pathways in T-cells promotes their activation and triggers anti-tumour immunity. The latter was shown to be driven against tumour-mutated antigens (neo-antigens) and to be dependent on the existence of neo-antigen-specific, activated T-cells, prior to therapeutic intervention. This observation suggests the complementary enhancement of T-cell responses by means of neo-antigen vaccination and/or adoptive transfer of neo-antigen-specific T-cell clones.

Study objective

The global aim of the current project is to demonstrate that colorectal cancer (CRC) patients can benefit from neo-antigen-targeted therapies.

Study design

The coding genomes of CRC tissues will be screened by employing next-generation sequencing (NGS) in order to identify neo-antigens in a personalized setting. The identified neo-antigens will be tested for their ability to induce activation of autologous T-cells isolated from tumour infiltrating lymphocytes and blood samples. Furthermore, the *immune microenvironment* of the tumours will be analysed by mass cytometry in order to correlate the occurrence or lack of neo-antigen recognition by T-cells to the composition of the tumours* immune cell infiltrate. This is a preclinical research study with a translational focus.

Study burden and risks

The burden or risks for the patients are minimal as all studies will be performed on material derived from regular surgical procedures as well as from blood samples collected through venepuncture.

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

Tumors analysed will be derived from CRC patients diagnosed with high-risk stage II (IIC), stage III and IV colorectal cancers.

At least 20% of the patients participating in the study should be individuals diagnosed with colorectal cancer until de age of 50 years-old.

Exclusion criteria

Severe anemia (Hb < 6.0 mmol/L)

Study design

Design

Study type: Observational invasive

Masking: Open (masking not used)

Control: Uncontrolled

Primary purpose: Prevention

Recruitment

NL

Recruitment status: Pending

Start date (anticipated): 01-10-2015

Enrollment: 50

Type: Anticipated

Ethics review

Approved WMO

Date: 26-01-2016

Application type: First submission

Review commission: METC Leiden-Den Haag-Delft (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
CCMO	NL55066.058.15