Monitoring of DC and T cell functions in healthy controls and patients with prostate cancer treated with GM-CSF transduced allogeneic vaccines and anti-CTLA-4

Published: 13-01-2011
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To determine the frequency of activated T cells and dendritic cells in healthy controls:

Ethical review	Approved WMO
Status	Will not start
Health condition type	Other condition
Study type	Observational invasive

Summary

ID

NL-OMON34152

Source
ToetsingOnline

Brief title
Frequency and functionality of immune cells in healthy controls

Condition

- Other condition

Synonym
not applicable

Health condition

onderzoek van immuuncellen van gezonde mensen

Research involving

Human

Sponsors and support

Primary sponsor: Vrije Universiteit Medisch Centrum
Source(s) of monetary or material Support: Ministerie van OC&W

Intervention

Keyword: dendritic cells, healthy controls, prostate cancer, T cells

Outcome measures

Primary outcome

FACS analysis the following markers will be measured on dendritic cells and T

cells:

a) peripheral blood dendritic cells and monocytes:

1) CD1c high/CD14neg/BDCA1+ cells (cDC1)

2) CD1c high/CD14neg/BDCA3+ cells (cDC2)

3) CD1c high/CD14low/MDC-8+ cells (cDC3)

4) CD1c neg/CD14neg/BDCA2+ cells (plasmacytoid cells (pDC)) en

5) CD11c+/CD14+ monocytes.

b) peripheral blood CD4+ en CD8+ T cells (CD3, CD4, CD8, CD45RA, CD45RO, CD27,

CD25, and HLA-DR, CTLA-4, PD-1) en regulatory T cells (CD4+/CD25high/FoxP3+)

Secondary outcome

NA

Study description

Background summary

Prostate cancer is a relatively common cancer in the Netherlands. If the tumor

is localized, cure can only be achieved by surgery or locoregional radiotherapy. In case of metastatic disease hormonal therapy and chemotherapy are the first treatment options. These therapies can control the disease for a relatively long period, but are not able to cure prostate cancer. A novel strategy is immunotherapy, that is aimed to stimulate the immune system of the patient against his own cancer. Immunotherapy for prostate cancer is still experimental and the first results are very promising, particurlarly in patients with low residual disease and a rising PSA.

We recently conducted a phase I/II trial in castrate resistant prostate cancer using a allogeneic vaccine, producing GM-CSF (GVAX) and anti-CTLA-4 antibodies (ipilimumab). The whole treatment lasted 24 weeks and 28 patients were included. The primary endpoint was safety and tolerability. Secundary endpoints were tumor response, survival and immune response. We hope to identify markers which can predict the clinical efficacy of this immunotherapy. We observed an increased T cell activation (HLA-DR levels on CD4+ and CD8+ T cells) and dendritic cell activation (CD40 op CD11cpos/CD14neg/BDCA1pos dendritic cells (DC)) in blood of treated patiënts, suggesting a GVAX/ipilimumab induced effect. Moreover, we observed clear differences of these cells in prostate cancer patients as compared to a small group of healthy controls.

Study objective

To determine the frequency of activated T cells and dendritic cells in healthy controls:

Study design

Twelve healthy volunteers will be asked to donate 20 ml blood. PBMCs will be isolated and by FACS analysis the following markers will be measured on dendritic cells and T cells:
a) peripheral blood dendritic cells and monocytes:
1) CD1c high/CD14neg/BDCA1+ cells (cDC1)
2) CD1c high/CD14neg/BDCA3+ cells (cDC2)
3) CD1c high/CD14low/MDC-8+ cells (cDC3)
4) CD1c neg/CD14neg/BDCA2+ cells (plasmacytoid cells (pDC)) en
5) CD11c+/CD14+ monocytes.
b) peripheral blood CD4+ en CD8+ T cells (CD3, CD4, CD8, CD45RA, CD45RO, CD27, CD25, and HLA-DR, CTLA-4, PD-1) en regulatory T cells (CD4+/CD25high/FoxP3+)

Study burden and risks

NA

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

Healthy men without a history of cancer or auto-immune diseases
age 65-75 years

Exclusion criteria

Cancer patients
Patients with auto-immune diseases
women

Study design

Design

Study type: Observational invasive

Masking:	Open (masking not used)
Control:	Uncontrolled
Primary purpose:	Diagnostic

Recruitment

NL

Recruitment status:	Will not start
Enrollment:	12
Type:	Actual

Ethics review

Approved WMO

Date:	13-01-2011
Application type:	First submission
Review commission:	METC Amsterdam UMC

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	NL33882.029.10