Validation of mutation analysis in circulating tumor DNA with a ddPCR assay as diagnostic and follow-up tool for patients with a KIT exon 11 mutated GIST: GALLOP-11

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To establish the negative predictive value of the designed KIT exon 11 circulating tumor mutation assay in relation to CT-scans (and/or MRI scans).

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-OMON52793

Source
ToetsingOnline

Brief title
GALLOP-11

Condition

- Miscellaneous and site unspecified neoplasms malignant and unspecified

Synonym
gastro-intestinal stromal tumors

Research involving
Human

Sponsors and support

Primary sponsor: Universitair Medisch Centrum Groningen
Source(s) of monetary or material Support: KWF/ Alpe d□HuZes

Intervention

Keyword: circulating tumor DNA, GIST

Outcome measures

Primary outcome

The NPV of the previously developed KIT exon 11 ddPCR assay in relation to response assessment by CT-scan (and/or MRI scan). The study is considered positive once the NPV is higher than 90%.

Secondary outcome

n.a.

Study description

Background summary

Patients with a gastrointestinal stromal cell tumor (GIST) are mostly treated long-term with anti-cancer drugs. Currently, a CT-scan is made every 3-12 months to monitor the response to therapy, according to the guidelines of the Dutch GIST consortium. CT-scans are relatively expensive and can expose patients to accumulative high levels of radiation. In case of progressive disease, a biopsy is taken to investigate secondary mutations. This is an invasive method. An alternative to monitor response could be assessment of circulating tumor DNA in blood. In a previous study we have developed an assay to detect and quantify the most common GIST mutations in KIT exon 11. Adding an extra tube for assessment of ctDNA to the regular blood draws during follow-up, could provide a solid and non-invasive follow-up strategy.

Study objective

To establish the negative predictive value of the designed KIT exon 11 circulating tumor mutation assay in relation to CT-scans (and/or MRI scans).

Study design

An observational, multicenter study will be performed. Regular 3-12 monthly follow-up by CT-scan will be compared to results of ctDNA analysis. CtDNA results will be assessed at the same moment a CT-scan is performed. Additionally, in case of initiation of a new therapy an extra ccfDNA sample will be collected within 1-2 weeks after start therapy. All samples will be analyzed at the reference Pathology laboratory at the UMCG. A part of the samples will also be analyzed in other institutions to implement the ddPCR. Primary endpoint is concordance between CT-scan (and/or MRI scan) and ctDNA analysis results, from which the negative predictive value (NPV) of our ddPCR assay will be calculated.

Study burden and risks

The only potential risk of ctDNA analysis is damage due the blood withdrawal, which is considered very low (a small risk of pain, bruises or thrombophlebitis). In our study, the vena puncture will be mostly performed at the same moment standard laboratory tests are taken. Therefore, the risk and burden is minimized.
Benefits of the assay could be substantial. Radiation load is reduced once ctDNA can replace (some) CT-scans. Patients could experience ctDNA analysis as less invasive than a scan (just one extra tube of blood during regular blood draw). The most important benefit would however be if ctDNA analysis could predict (developing) progression earlier than CT-scans (and/or MRI scans) by the detection of secondary mutations, whereby earlier treatment adaptions could be made based on the assessed secondary mutations.

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

1. Patients with GIST with a by biopsy confirmed primary KIT exon 11 mutation covered by our KIT exon 11 ddPCR assay (mutation/deletion within target sequence of c.1665 to c.1736);
2. Patients with an indication for at least 4 CT-scans (and/or MRI scans) concomitant with regular laboratory examination in a neoadjuvant, adjuvant and/or palliative care trajectory within the time frame of the study;
3. Age >=18 years;
4. Written informed consent provided.

Exclusion criteria

1. Patients who are unable to comply with study procedures and follow up.

Study design

Design

Study type: Observational invasive

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

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	10-05-2021
Enrollment:	250
Type:	Actual

Ethics review

Approved WMO Date:	17-02-2021
Application type:	First submission
Review commission:	METC Universitair Medisch Centrum Groningen (Groningen)
Approved WMO Date:	29-09-2022
Application type:	Amendment
Review commission:	METC Universitair Medisch Centrum Groningen (Groningen)

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	NL71589.042.19
Other	volgt