Magnetic Resonance imaging-guided high intensity focused ultrasound for patients with Desmoid-type fibromatosis

No registrations found.

Ethical review	Not applicable
Status	Pending
Health condition type	-
Study type	Interventional

Summary

ID

NL-OMON23077

Source
NTR

Brief title
MAGNIFIED trial

Health condition

Desmoid-type fibromatosis

Sponsors and support

Primary sponsor: UMC Utrecht
Source(s) of monetary or material Support: Desmoid Tumor Research Foundation

Intervention

Outcome measures

Primary outcome

Analysis of efficacy:
MR-HIFU will be considered as an effective treatment modality for DTF patients if a success is observed in >3 of the 13 patients. If a success is observed in ≤3 of the 13 DTF patients, it is

concluded that MR-HIFU is not an effective treatment strategy in these patients, and should not be further investigated. Otherwise, this study will conclude that this treatment strategy is effective and sufficiently promising, and warrants further investigation in this patient population. The primary outcome will be presented in absolute numbers and proportions.

Secondary outcome

Presence of non-perfused volume on MRI
The amount of non-perfused volume will be calculated as a percentage of the total targeted volume. This amount will be reported as median percentage with corresponding IQR.

Change in tumor volume
Change in total and vital tumor volume will be reported as median percentage with corresponding IQR. Results will be plotted in a waterfall plot.

Response rate
The response rate will be calculated as the number of patients with PD, SD, PR, and CR 12 months after completion of treatment divided by the total number of patients treated with MR-HIFU. Response rate will be presented in absolute numbers and proportions.

Safety of MR-HIFU treatment
Safety will be measured by the number of patients who experienced grade III-IV toxicity. This number will be described as an absolute number and proportion of all the included patients.

Change in symptoms
A mean score or median score will be calculated with standard deviation (SD) or IQR of the PGIS and PGIC.

Change in pain scores
For patients with painful tumors, defined as a score of at least 4 out of 10 on the NRS, the worst and average daily NRS pain scores will be compared before and at 3, 6 and 12 months after completion of treatment. A decrease in worst and average pain scores of ≥ 2 points will be considered as pain reduction after MR-HIFU treatment. Median decrease with corresponding IQR will be reported. Decrease of at least 2 points between baseline and follow-up NRS pain scores will be tested using a paired t-test or an exact one-sided Wilcoxon test.

Health-related Quality of Life.
The mean score or median score per scale of the EORTC QLQ-C30 questionnaire (symptom scales, single item scales, global health scale, and functioning scales) will be calculated with the standard deviation (SD) or interquartile range (IQR). Additionally, a summary score will be calculated based on all scales except financial difficulties and the global quality of life score, to reflect overall quality of life. A mean score per item with an SD or a median score with a IQR will be calculated for the DTF-QoL questionnaire. The outcomes of the EQ-5D-5L will be reported as frequency (proportion) of reported problems for each level and for each dimension. The outcomes of the GODDESS will be calculated and reported according to their accompanying instruction manual.

To evaluate change in HRQoL over time, a comparison will be made between baseline quality of life and 6 and 12 months after treatment completion. A stratified analysis for symptoms (presence or absence of symptoms at time of inclusion) will be performed, because we only expect improvement of HRQoL in patients who were symptomatic before MR-HIFU treatment.

Need for re-intervention
The need for re-intervention will be evaluated as a percentage of all the included patients. This percentage will be calculated by dividing the number of patients who need re-intervention within 12 months after an adequate MR-HIFU treatment by the total number of patients treated with MR-HIFU. This will be presented in absolute numbers and proportions. Time to re-intervention will be described as median with corresponding IQR.

Time to (re)growth
Time to (re)growth of a desmoid tumor will be described as median with corresponding IQR.

Duration of tumor response and patient satisfaction
Tumor volumes will be reported as median with IQR; response rate will be reported as number of patients with PD, SD, PR, and CR. The number of patients who need a re-intervention and who are still satisfied will be described as an absolute numbers and proportions. Total follow-up duration will be described as median with corresponding IQR.

Study description

Background summary

Rationale: Desmoid-type fibromatosis (DTF) is a rare, histologically benign soft tissue tumor. Although incapable of metastasizing, the clinical course is unpredictable and can be aggressive because of local invasive growth. Many intensive treatments (i.e. surgery, systemic treatments, radiotherapy) may be considered in patients with symptomatic disease but unfortunately, these ‘traditional’ treatment options do not guarantee success. Local recurrence after surgery remains high and the response rates after systemic treatment and radiotherapy are disappointing. Active surveillance is now recommended as a first line management for most patients with DTF. However, symptoms can be severe, and patients are often limited in their daily life because of pain, functional deficits, and/or psychological problems. Therefore, development of new treatment modalities which improve quality of life and/or achieve tumor control, while minimizing any possible harm, are warranted. MR-HIFU is a promising non-invasive technique that uses focused ultrasound waves to thermally ablate tumors, while minimizing side effects to surrounding healthy tissues. Given the promising outcomes of previous studies of MR-HIFU as treatment modality for DTF patients, we hypothesize that DTF patients could benefit from treatment with MR-HIFU.

Objective: The aim of this study is to assess the efficacy of MR-HIFU as a treatment modality for desmoid-type fibromatosis (DTF).

Study design: This is a two-stage, open-label, single-arm, phase 2 prospective study.

Study population: All adult patients with DTF with failure of active surveillance (due to tumor growth and/or new or worsening symptoms) for their current desmoid tumor are considered eligible for the study.

Intervention (if applicable): All patients will undergo an adequate MR-HIFU treatment procedure with the aim of total tumor ablation (consisting of a single or multiple treatments).

Main study parameters/endpoints: Primary outcome of the trial will be the patient satisfaction rate 12 months after the completion of the MR-HIFU procedure(s). Patient satisfaction is being defined as the number of patients achieving their own personal satisfaction score. Secondary outcomes include the presence of non-perfused volume on MRI after the MR-HIFU procedure, change in tumor volume, the response rate according to the Response Evaluation Criteria in Solid Tumors version 1.1. (RECIST v.1.1) and mRECIST criteria, the number of patients who need a re-intervention, time to (re)growth, duration of tumor response, and patient satisfaction, adverse events, change in symptoms, pain scores, and health-related quality of life (HRQoL) in the first 12 months after treatment.

Study objective

Patients with desmoid-type fibromatosis could benefit from treatment with MR-HIFU.

Study design

An interim analysis will be done after the first 8 patients have been in follow-up for 12 months after completion of MR-HIFU treatment (phase 1). If response is observed in >1 patients, another 5 patients will be included and treated with MR-HIFU (phase 2).

With regard to the timepoints of the primary and secondary outcomes, we refer to the section 'primary and secondary outcomes'.

Intervention

MR-HIFU treatment

Contacts

Public
University Medical Center Utrecht
Anne-Rose Schut

-
Scientific
University Medical Center Utrecht
Anne-Rose Schut

-

Eligibility criteria

Inclusion criteria

- Patients > 18 years
- Histological evidence of DTF
- Patients with failure of active surveillance* for their present manifestation of DTF
- Desmoid tumor must be targetable with MR-HIFU device
- Desmoid tumor must be visible on pre-treatment MR-imaging
- Patient is able to fit in the MRI gantry
- Capable to understand and sign informed consent

*failure of active surveillance due to tumor growth and/or new or worsening symptoms

Exclusion criteria

- Personal or family history of familial adenomatous polyposis (FAP)
- Intra-abdominal tumor localization
- Patients with a tumor greater than 10 centimeters
- Patients who have undergone prior active treatment (systemic therapy, radiotherapy, prior ablation) for the present manifestation of DTF
- Patients with recurrent disease within 12 months after treatment for their prior desmoid tumor
- Patients weighing more than 140 kilograms
- Pregnancy
- Contra indications to MRI, MRI contrast agents or sedation
- Unavoidable critical structures or dense tissues in target area*
- Any other condition, which in the opinion of the investigators, would put the patient at increased risk or otherwise make the patients unsuitable for this study

*as judged by the operator. e.g.: nerve bundles, skin, extensive scarring, non-targeted bones, air (e.g. hollow viscera), (external) fixation device, surgical clips

Study design

Design

Study type: Interventional

Intervention model:	Other
Allocation:	Non controlled trial
Masking:	Open (masking not used)
Control:	N/A , unknown

Recruitment

NL

Recruitment status:	Pending
Start date (anticipated):	01-09-2021
Enrollment:	13
Type:	Anticipated

IPD sharing statement

Plan to share IPD: Undecided

Ethics review

Not applicable

Application type:	Not applicable

Study registrations

Followed up by the following (possibly more current) registration

ID: 54042
Bron: ToetsingOnline
Titel:

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

No registrations found.

In other registers

Register	ID
NTR-new	NL9679
CCMO	NL76201.041.21

Register	ID
OMON	NL-OMON54042

Study results