Organoids model in laryngeal cancer

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We hypothesize that of our patients specific ex vivo LC organoids at least 50% of obtained LC tumor samples are viable and proliferating at week 2 and 6.

Ethische beoordeling	Positief advies
Status	Werving gestart
Type aandoening	-
Onderzoekstype	Observationeel onderzoek, zonder invasieve metingen

Samenvatting

ID

NL-OMON23214

Bron
Nationaal Trial Register

Verkorte titel
TBA

Aandoening

laryngeal cancer, sentinel lymph node

Ondersteuning

Primaire sponsor: University Medical Center Groningen
Overige ondersteuning: N/A

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

We want to further develop and evaluate our patients’ specific ex vivo LC organoids in which at least 50% of the obtained tumor samples are viable and proliferating at week 2 and 6.

Toelichting onderzoek

Achtergrond van het onderzoek

Despite intensive treatment, prognosis of laryngeal cancer (LC) remains poor. Five years overall survival is 60% and an accurate treatment is of paramount significance to improve overall survival. Most patients with LC will receive larynx preserving (chemo)radiation without knowing the sensitivity of the LC. Selecting LC with low (chemo)radiosensitivity could prevent unnecessary (chemo)radiation.
Organoids which are tumor-derived three-dimensional cancer stem cells that mimic in vivo tumor characteristics were explored and efficacy has been tested in our well-established collaboration with the UMCG departments of Biomedical Sciences of Cells & Systems/Radiation Oncology, Medical Oncology, Ear Nose Throat/Head and Neck Surgery, Pathology and Maxillofacial Surgery. Recently, the optimized organoids culture methodology for squamous esophageal cancers resulted in the parallel development of a culture methodology for organoids of head and neck squamous cell which was shown to be successful in six out of fourteen tumors. In this study we would like to develop and evaluate the efficacy of a solid ex vivo LC tumor model (= LC organoids) of patient derived LC tumor material by whole genome DNA sequencing. With solid LC organoids we would be able to test the effects of standard (chemo)radiation on self-renewal and regrowth potential of the LC stem cell derived organoids in future. Solid organoids predicting the patients (chemo)radiation response could lead to an improvement of LC treatment, by allowing selection of patients who will benefit from surgical treatment bypassing (chemo)radiation and as such improving survival and reducing side effects thereby increasing post-treatment quality of life.

Doel van het onderzoek

We hypothesize that of our patients specific ex vivo LC organoids at least 50% of obtained LC tumor samples are viable and proliferating at week 2 and 6.

Onderzoeksopzet

During surgery

Onderzoeksproduct en/of interventie

Biopsies will be taken at the departments of Otolaryngology / Head and Neck Surgery or Maxillofacial Surgery of the University Medical Center Groningen. During routine biopsy or resection, additional biopsies of the tumor will be taken or additional tumor tissue (maximum 0.5 cm3) will be removed. The subjects will not undergo extra procedures in the course of the research: only routinely procedures are performed (i.e. endoscopic examination in the outpatient clinic or under general anaesthesia for tumor staging, resection of tumor by neck dissection, total laryngectomy). Organoids of the ex vivo model will be developed and tested in the Laboratory of Medical Oncology and Laboratory of Cell Biology / Radiation Oncology,

University Medical Center Groningen.

Contactpersonen

Publiek

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Wetenschappelijk

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

- proven carcinoma of the larynx
- > 18 yrs of age
- planned routine biopsy or planned surgical resection as part of standard diagnostic work-up or treatment
- expected tumor volume > 2 cm3
- informed consent

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

- non-squamous cell carcinoma after definitive histological analysis

Onderzoeksopzet

Opzet

Type:	Observationeel onderzoek, zonder invasieve metingen
Onderzoeksmodel:	Anders
Toewijzing:	N.v.t. / één studie arm
Blindering:	Open / niet geblindeerd
Controle:	N.v.t. / onbekend

Deelname

Nederland

Status:	Werving gestart
(Verwachte) startdatum:	01-01-2021
Aantal proefpersonen:	20
Type:	Verwachte startdatum

Voornemen beschikbaar stellen Individuele Patiënten Data (IPD)

Wordt de data na het onderzoek gedeeld: Nog niet bepaald

Toelichting
N/A

Ethische beoordeling

Positief advies

Datum:	06-10-2020
Soort:	Eerste indiening

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

Geen registraties gevonden.

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

Register	ID
NTR-new	NL8956
Ander register	METC Groningen : METC73814

Resultaten