

Repeated in field-SBRT for lung and liver tumors

DEGRO 

ARBEITSGRUPPE RADIOCHIRURGIE/
STEREOTAXIE

DEGRO AG – Stereotaxie

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Background

- Thoracal/abdominal re-irradiation challenging clinical situation
- Most existing data: “low dose” palliative regimens for lung Re-RT, providing good symptom control¹
- Also “Full dose” data for small volumes < 100 cc, but mostly originating from fractionated regimens¹
- Proton-implementation for Re-RT does not seem to provide any benefit, but considerable toxicity²
- Series using SBRT for Re-RT report good tumor control, but higher toxicity compared to primary setting³
- Data for **Re-SBRT** limited to very small retrospective series, showing serious toxicity⁴ and no data available for liver localization

¹Drodge Ann Palliat Med 2014

²Chao, JTO, 2017

³De Bari Cancer Treatment Reviews 2015

⁴Peulen Radiother Oncol 2011

Background: SBRT for lung reirradiation

Local control @ 1-2 years	Overall survival @ 1-2 years	G3-5 pneumonitis
52% - 92%	59% - 88%	3 – 30%
81%	68%	None

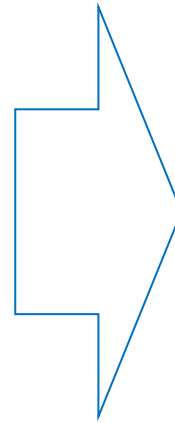
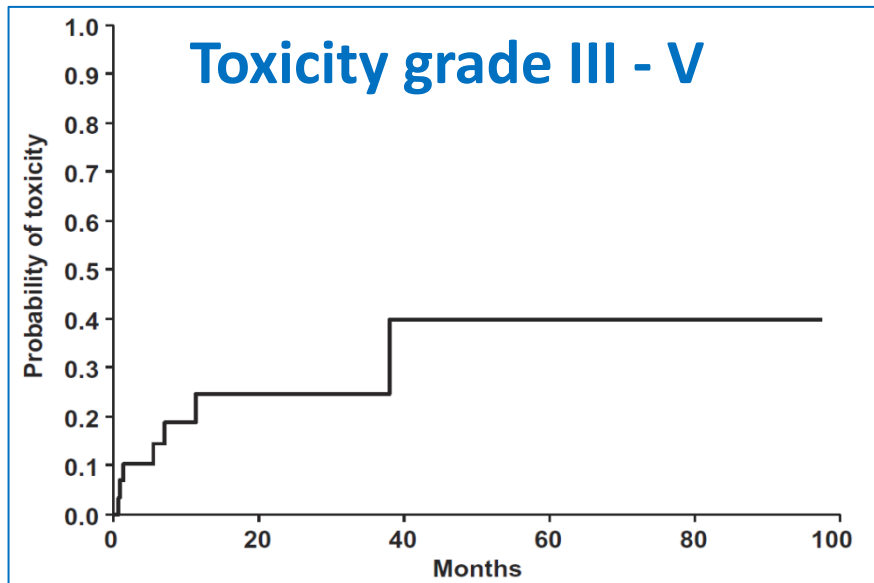
*De Bari et al.
 Cancer Treatment
 Reviews 2015*

*Kennedy et al.
 Radiother Oncol
 2019*

➤ Overall effective and well tolerated

Background: Re-SBRT after SBRT

- Retrospective analysis of 32 patients treated with 2 (n=29), 3 (n=2) or 4 (n=1) SBRT courses



Grade V bleeding: n=3
➤ All centrally located

➤ SBRT reirradiation for central recurrences strongly discouraged!

Unmet clinical need:

- **Systematic report of multicenter data** including patterns of care, feasibility and toxicity are missing
- **No standard** and no consensus for the optimal treatment for these, mostly inoperable patients
- Absolutely no reliable data concerning **liver lesions**
- Deferral of systemic treatment and possible **chance for cure**

Primary objective

To analyze the toxicity and efficacy of a second in-field course of SBRT for lung and liver lesions

Project plan

- establish a database of patients treated with a second course of stereotactic body radiotherapy (SBRT as defined by the DEGRO-AG)
- PTV of the second SBRT should have at least partial overlap with a previous SBRT-PTV
- pooled analysis of patient records including radiotherapy plans as DICOM files, transferred as anonymized DICOM files to the USZ transfer-server
- radiotherapy plans of both courses electronically available, centrally collected and evaluated, calculation of a summation plan (in both EQD2 and BED)
- Data stratified according to anatomic localization, re-RT volume, histology, dose-features and a detailed outcome analysis will be performed

Involvement of AG-members

The members would need to submit data :

1. Baseline information (Tumor type, other metastatic sites, previous treatments) for both SBRT courses

2. Outcome data, i.e. acute toxicity, late toxicity, local control, progression-free survival, overall survival

3. Complete RT-plans including **DICOM**-files, dose-/volume information for organs at risk and for the GTV and the PTV for both SBRT courses

Timeline - Stand of the project 11/2019

- **Letter of intent circulated**
- **Ethical committee approval for Germany submitted (Oliver Blanck)**
- **USZ-transfer server already functioning**

12/2018 server link, project outline and table with parameters circulated

12/2018-03/2019 Local ethical approvals in partner sites

Since 03/2019 data collection

Q4: Last call for data/case collection (central data evaluation already started)

Q1-Q2 2020 1st publication

All clinics providing data can name one co-author on each publication due

Due to the complexity of the project; clinics providing five or more patients can name 2 co-authors on each publication.

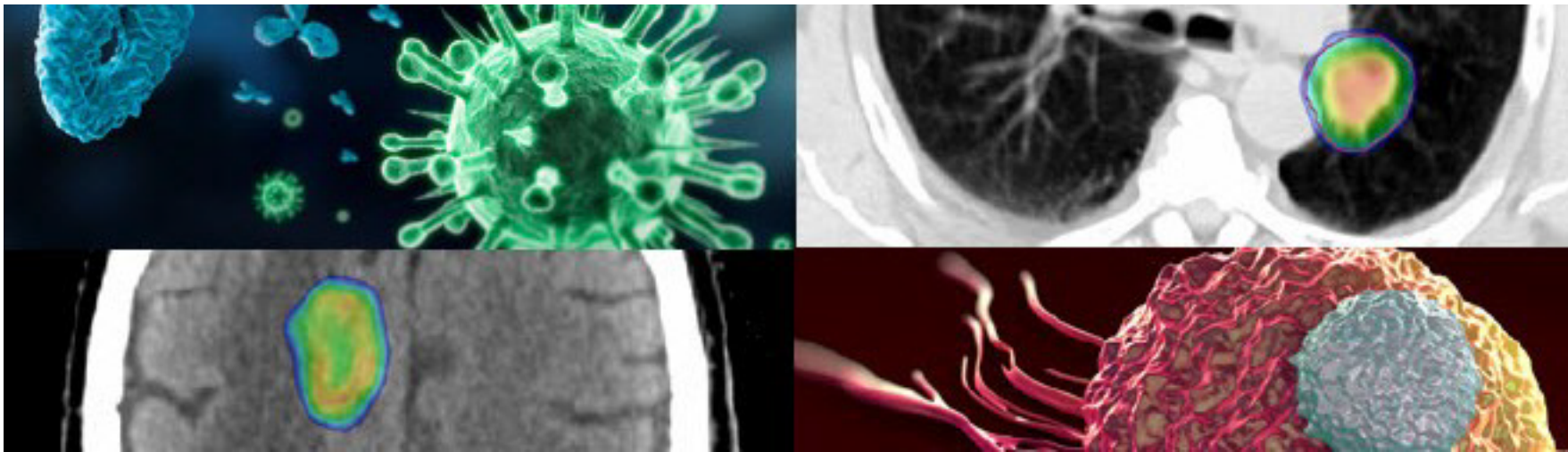
Stand of the project 06/2019

centers and numbers

26 centers expressed interest/ 7 already participating/ cases not completely validated yet!

Centers already recruiting	Cases Lung (n)	Cases Liver (n)
Berlin	5	
Freiburg	1	5
Freising	1	
Güstrow	5	7
Mannheim	1	1
Salzburg	2	
Zürich	25	3
TOTAL	40	16

Kennedy et al. recently reported about 21 patients treated with Re-SBRT in the lung (Radiother Oncol, 2019)



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