Radiotherapy of the lung: understanding mechanisms of toxicity

Noordelijke Refereeravond Radiotherapie
Radiotherapy of the lung: understanding mechanisms of toxicity

Lung cancer remains one of the most common cancers with high mortality rates. Radiotherapy is an important treatment modality, having witnessed major developments over the last decades. Despite improvements in radiotherapy techniques there is still a serious risk of pulmonary and cardiac toxicity. To further improve the treatment of lung cancer more insight in toxicity is needed.

Scoring radiation induced lung toxicity remains difficult. Pulmonary function tests might be a more objective measure. Drs. A.G.H. Niezink will present the data on the follow up of pulmonary function tests after thoracic radiotherapy. Validation of current pneumonitis models is another way to improve the prediction of toxicity. Dr. A. van der Schaaf will discuss the external validation of the QUANTEC pneumonitis model.

Recent results of the RTOG 0617 suggested that cardiac toxicity may play a role in survival in patients treated for lung cancer. Therefore, dr. M.C.A. Kramer will present our preliminary analysis of the relation between dose to cardiac substructures and mortality. In addition, it was observed in rats and confirmed in patients that radiation damage to the lung may cause pulmonary hypertension, which may also explain a part of the early deaths after radiotherapy. Dr. P. van Luijk will give more insight in this biological development of combined cardiac and pulmonary toxicity.

The UMCG expects to treat the first patient with proton therapy at the end of 2017. Before it is possible to start treating patients with lung cancer some technological aspects, especially how to deal with moving targets, needs to overcome. Dr. A.C. Knopf will elaborate on the challenges of treating moving targets and will highlight how we envision to treat thoracic tumours at our proton facility.

The evening will be closed by some additional concluding remarks of prof. dr. J.A. Langendijk.
Welcome and registration (sandwiches will be served at 17.30).

Introduction by J.A. Langendijk, Professor and chair of the department of Radiation Oncology UMCG

Prediction of early pulmonary function test changes after radiotherapy for lung cancer
A.G.H. Niezink, MD, resident in Radiation Oncology UMCG

Q&A

Cardiac dose no longer to be neglected in lung cancer radiotherapy
M.C.A. Kramer, MD, PhD, radiation-oncologist UMCG

Q&A

Pulmonary hypertension: an unrecognized radiation-induced side effect with potential survival impact
P. van Luijk, PhD, Assistent Professor Radiobiology and Radiation Oncology UMCG

Q&A

Coffee break

External validation of NTCP-models for radiation pneumonitis
A. van der Schaaf, PhD, medical physicist department of Radiation Oncology UMCG

Q&A

Challenges in proton therapy of thoracic tumors: motion management
A.C. Knopf, PhD, M.Sc., Associate professor Radiation Oncology UMCG

Q&A

Concluding remarks
J.A. Langendijk, Professor and chair of the department of Radiation Oncology UMCG

Closure and drinks
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Venue
University Medical Center Groningen (UMCG).

Location
Hanzeplein 1
9713 GZ Groningen
Lokaal 16, Onderwijscentrum UMCG.
Please follow the signs within the UMCG.

Registration
Registration in advance is mandatory.
You are requested to registare at: e.m.l.moed@umcg.nl
Participation is free of charge.
Accreditation has been requested for.

Further Information
Secretariat Radiation Oncology UMCG,
tel: +31(0)50 - 361 55 32.
e-mail: rtsecretariaat@umcg.nl
www.radiotherapiegroningen.nl

Parking
A parking place is available in parking garage “UMCG Noord” (paid parking). This can be reached through the Vrydemalaan.