

## Danish University Colleges

### Using Dynamic Contrast enhanced CT (DCE-CT) to assess the response to treatment of chemotherapy of colorectal cancer liver metastases

Lauridsen, Carsten Ammitzbøl

*Publication date:*  
2015

*Document Version*  
Peer reviewed version

[Link to publication](#)

*Citation for published version (APA):*  
Lauridsen, C. A. (2015). *Using Dynamic Contrast enhanced CT (DCE-CT) to assess the response to treatment of chemotherapy of colorectal cancer liver metastases*. Poster session presented at SUNDTEK Forskningsdagen 2015: PHMetropol, København, Denmark.

#### **General rights**

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

#### **Download policy**

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

# Using Dynamic Contrast enhanced CT (DCE-CT) to assess the response to treatment of chemotherapy of colorectal cancer liver metastases

Carsten Lauridsen ph.d., Bachelor`s Degree Programme in Radiography Department of Technology Faculty of Health and Technology, Metropolitan University College.  
Department of Diagnostic Radiology, Rigshospitalet, Copenhagen University Hospital

## Aim:

To determine whether DCE-CT can allow an early evaluation of the effects of chemotherapy combined with antiangiogenetic treatment on liver metastases in patients with advanced colorectal cancer.

## Materials and Methods:

Image analysis was performed at a dedicated workstation encompassing measurement of the arterial and portal tissue perfusion (AF, PF) and Perfusion Index ( $PI = AF/(AF+PF)\%$ ) of the metastases. The perfusion values were calculated using dual input, maximum slope model. The poster reveals preliminary data from four patients, being the first of a planned larger study including 40 patients. The patients underwent three examinations, which were performed at pre-treatment baseline, 14 days after the start of the treatment, and together with the normal routine CT examination (app. 9 weeks after treatment onset).

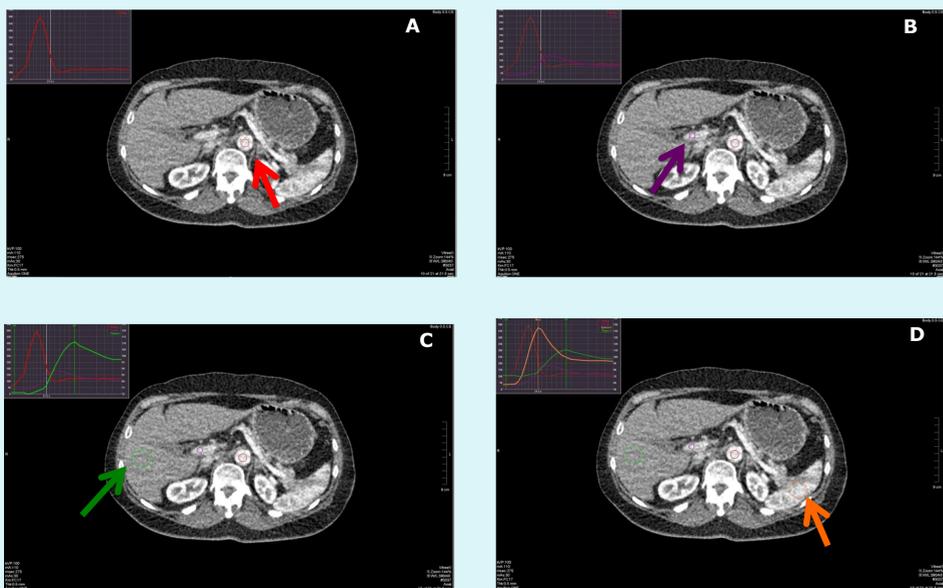


Figure 1: Shows the analyzing method. **A:** ROI in the abdominal aorta. **B:** ROI in the hepatic portal vein. **C:** ROI in the right lobe of the liver. **D:** ROI in the spleen.

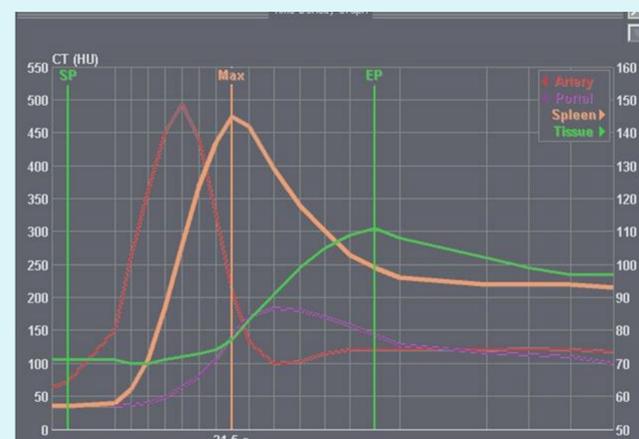


Figure 2: Shows the analysing curves.

## Results:

So far we have analysed DCE-CT data of four patients. One patient showed a mean decrease of 30% (perfusion index (PI)) between the first and second examination. This patient was a partial responder. The other three patients showed similar PI values for the first and second examination. One of these patients was a partial responder and two had stable disease according to the RECIST criteria.

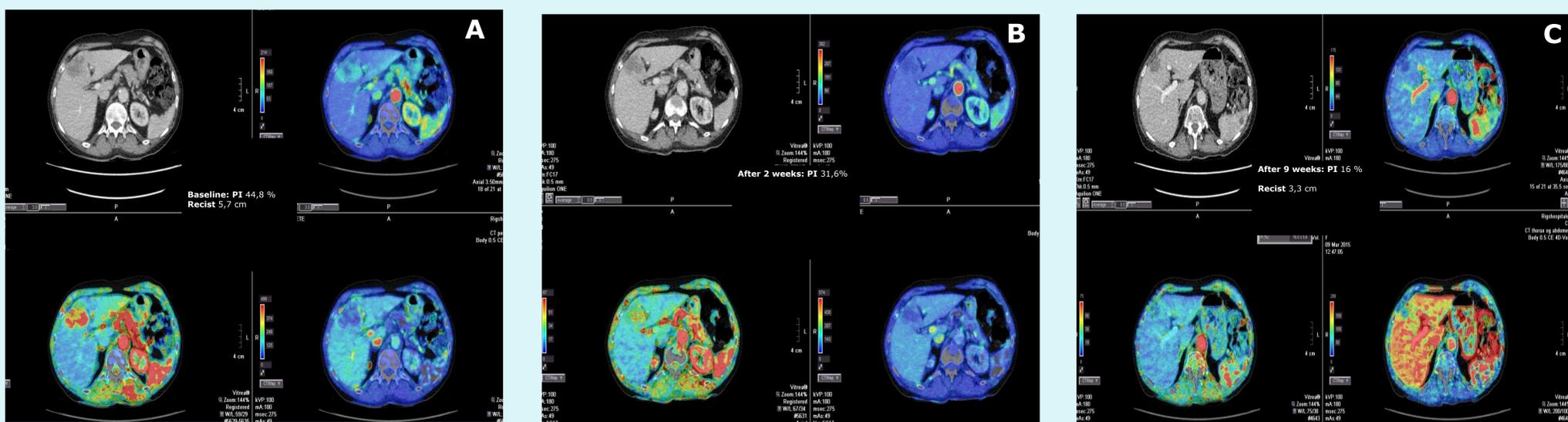


Figure 3: Shows the perfusion values. **A:** Baseline. **B:** After 2 weeks. **C:** After 9 weeks.

## Conclusion:

The study is work in progress. We expect that the study will clarify the added value for DCE-CT in treatment monitoring of metastatic colorectal cancer.