

QIBA DCE-MRI

Summary

The overall objective of the Quantitative Imaging Biomarker Alliance (QIBA) is to enhance the use of quantitative imaging methods in clinical practice. In a first set of activities together with pharmaceutical companies is to enable those companies to run multi-center clinical trials across imaging vendors, by reducing variance inherent among differing hardware and software platforms. A first application area is cancer trials. Volumetric CT, FDG-PET and DCE-MRI have been identified as the most promising imaging techniques for this specific application.

Although those imaging techniques have different clinical development status - volumetric CT is already in clinical practice versus DCE-MRI as novel imaging technique in rather exploratory status - its use in multi-center clinical trials cross imaging vendor has not been investigated. Clinical trials require comparable quantitative measures out of images. Therefore three working groups have been set up under QIBA to work with all relevant stakeholders on finding solutions.

In a QIBA workshop in May 2008 comparable imaging quality has been identified as first step on the way to make quantitative imaging results in clinical trials comparable.

The QIBA DCE-MRI team has agreed that imaging across GE, Philips and Siemens MR scanners, based on the same phantom, a generic imaging protocol, and well defined image and data analysis, will provide an understanding how different the quantitative results really are. This will form the basis for a clinical test - re-test study as validation of the phantom study findings.

The imaging procedure is based on a well defined phantom (a modified ADNI design) and will be performed using two different 1.5T MR scanners per imaging company (one newer scanner, one in widespread use). Imaging will be performed at select US clinical sites. Image and resulting data analysis will be performed centrally to provide a consistent analysis quality for further decision making. The phantom study is planned for three months.

Data Access

This is currently a *limited access collection* within NBIA and is not open to the general public. Please contact CBIIT Application Support with any questions or requests for access:

Email: ncicb@pop.nci.nih.gov

Toll-Free: 888.478.4423

Local: 301.451.4384

<http://ncicbsupport.nci.nih.gov>

| Collection Statistics | |
|-----------------------|--------|
| Modalities | MR, PR |
| Number of Patients | 10 |
| Number of Studies | 10 |
| Number of Series | 267 |
| Number of Images | 23,074 |

If you have been granted access to this data set you can [view and download these images on NBIA](#). You will first need to log in in the right side menu bar and then follow these steps:

- Navigate to <http://imaging.nci.nih.gov>
- Click the "Search Images" link in the center of the page
- Scroll down through the search criteria until you see the "Collections" section
- Select the "QIBA" check box
- Press "Submit"

This will return the full list of cases included in the collection. To download the associated DICOM images:

- Press the "Check All" button and then "Add to Basket"
- Press the "View My Basket" button at the bottom of the page (or "View Contents" in the left menu bar)
- Press the "Download Manager" button to open a Java applet and specify where you'd like to save your images