

QIBA Q-CT Group 1B Subcommittee Update
August 20, 2010
3 PM CDT

Call Summary

In Attendance

Michael McNitt-Gray, PhD (Chair)
Andrew Buckler, MS
Charles Fenimore, PhD
David Gustafson, PhD
Hyun Grace Kim, PhD
Nicholas Petrick, PhD
Binsheng Zhao, DSc

RSNA
Joe Koudelik
Julie Lisiecki
Madeleine McCoy

Group 1B Update (Dr McNitt-Gray)

- Coffee break experiment data used from MSK
- 32 cases scanned repeatedly over a 15 minute period under a no-change condition
- RadPharm has handed off data (Aug 19th); reader contouring complete after software updates installed
- RadPharm readers performed multiple reads to study inter- and intra-reader variability
- Three reader sessions performed; one with each measurement technique (or metric); study went well; smooth process overall
 - Manual Single Longest Diameter: 1D (one-dimensional) – based on RECIST - longest diameter within slice or object not know (Dr McNitt-Gray to follow-up with Dr Clunie for details)
 - Manual Smallest Diameter: 2D (two-dimensional) – longest diameter and perpendicular diameter (bi-directional)-based on the WHO
 - Semi-automated Boundary Contouring: 3D (three-dimensional) – VOLUMETRIC
- Interesting note was that readers would rate lesions as “readable/not-readable in a clinical setting”; these grouping to be categorized as “Yes/No” values; reader opinions deemed useful
- Variability between readers seen
- Dr Kim developing 1B statistical analysis plan; proposed to estimate difference of 5 readers in 5 different measurement methods;
- Dr Kim, Lu, Petrick and Fenimore to work on primary endpoints
- Dr Kim to circulate modified statistical analysis plan
- Need Dr Clunie to provide more description as to “un-measurable” lesions; snapshots needed
- Minimum detectable limits needed
- Analysis of segmentation data proposed; simple vs. complex suggested
- Scatter plot of volumes (32 cases) discussed; volume spread observed likely due to irregular lesion shapes

Next steps proposed

- Continue examining data
- CT reproducibility needed; scan same lesions twice
- Segmentations and contours in-hand at RadPharm; NBIA posting proposed
- Sub-resolution of voxel data a question to be addressed with Dr Clunie
- AIM (caBIG) already developed structure to handle this data type and level of detail: possible collaboration/partnership with Dr Daniel Rubin proposed
- AVT might handle data well; Dr McNitt-Gray to send reference link of NBIA data to Mr Schwanke for reference

Next steps:

- Mr Buckler requested subcommittee members to send materials to Ying Tang, PhD who is currently working on the qualification document (Briefing Document) for further incorporation (ytang@ccsainc.com)
- Dr Kim, Lu, Petrick and Fenimore to work on primary endpoints – no wider audience/input yet; presentation of data analysis for Q-CT weekly call in few weeks time

- Dr McNitt-Gray to send reference link of NBIA data to Mr Schwanke for reference
- Dr McNitt-Gray to follow-up with Dr Clunie concerning data collection details; Dr Clunie to provide more description as to “un-measurable” lesions; snapshots needed
- Longest diameter within slice or object not know (Dr McNitt-Gray to follow-up with Dr Clunie for details)
- Sub- resolution of voxel data a question to be addressed with Dr Clunie
- Dr Kim to circulate modified stat analysis plan
- Next call: October 1, 2010 at 2 pm CDT

Ying Tang - Professional writer working with the Q-CT group. Send specific input to her and include her directly on emails that may be pertinent. (ytang@ccsainc.com)