QIBA Volumetric CT Group 1C Update WebEx

Cross-Platform / Inter-Clinical Study

Wednesday, October 14, 2009

2:00 PM CDT

Call Summary

In attendance:

Charles Fenimore, PhD (Chair, Moderator)
John Lu, PhD
Mahadevappa Mahesh, MS, PhD, FAAPM, FACR
Michael McNitt-Gray, PhD
Kevin O'Donnell
Nicholas Petrick, PhD
Daniel Sullivan, MD

RSNA Staff

Fiona Miller
Susan Anderson, MLS
Joe Koudelik

Agenda

- 1C data collection protocol
- UPICT protocol/template update
- 1B update

Group 1C data collection protocol

- Reading protocol/procedures being drafted; Drs Fenimore and Lu to follow-up off-line
- Need protocol input/feedback from individual acquisition sites
- Dr Fenimore to forward protocol slides to participating imaging sites and invites comment
    - Dr Mahesh agreed to perform protocol at Johns Hopkins and provide feedback
- Dr Fenimore to visit RadPharm week of October 19; will also discuss readers' availability and schedule
- Goal of 1C is to equilibrate various systems performance; need to explain differences observed to vendors to obtain a 'collective condition' across products
- Need to put existing data together in context of vCT Groups 1A and 1C
- Dr Petrick may be able to test the protocol using the both FDA and water phantoms with a small pilot study using 1-2 scanners; looking to adhere to a short protocol of less than 1 hour in efforts to maintain vendor and acquisition site interest
- Dr Petrick to check what in-house FDA data has already been collected on the ACR phantom

UPICT protocol/template update (Mr O'Donnell)

- Updated vCT Lung UPICT template posted on the Wiki now contains an updated parameters table
- No direct acquisition parameters in the UPICT template; only dictated target parameters needed, e.g. anatomic coverage
- UPICT template structured to the QIBA profile; share common areas
    - Clinical trials management content
    - Boilerplate QC procedures, subject preparation, etc
    - Use of contrast
    - Imaging procedures
- 1C will provide performance metrics input for UPICT template, eventually filling-in values
- If variation determined between systems, need to keep track of potential factors that explain these differences

Group 1C data collection update

- Performance specification values within 1B protocol are placeholder only, not final values
- Statement of image quality performance needed
- Changing CT system beam filtration produce different imaging contrast scales between systems
- Spatial resolution of 7 lp/cm considered good on the ACR phantom
- Adjusting dose, resolution and standard deviation proposed to maintain performance requirements listed in protocol, e.g. mAs and recon filter may be varied to meet performance specs in 1B protocol
- Specific set of performance metrics needed to achieve Claims
- Recording of dose used instead of mandating proposed
- Vendor is to optimize dose used while attempting to attain system performance
- Testing protocol to determine parameters
    - mAs values not yet set
    - using smoothest recon filter to achieve 7 lp/cm resolution
    - resolution issues created by recon kernel and phantom geometry
- Dr McNitt-Gray to send minimum pitch spreadsheet to Dr Fenimore

Next Steps

- Dr McNitt-Gray to send minimal pitch spreadsheet to Dr Fenimore
- Drs Fenimore and Lu to continue protocol/procedure discussions off-line
- Dr Petrick to determine what in-house FDA data has already been collected on the ACR phantom
- Next call date to be determined