QIBA DCE-MRI Technical Committee Update
Wednesday, July 01, 2009
11 am CDT

Call Summary

In attendance:

Gudrun Zahlmann, PhD (Co-Chair, Moderator)
Michael H. Buonocore, MD, PhD (Co-Chair)
Gregory Karczmar, PhD
Chahin Pachai, PhD
David E. Purdy, PhD
Mark Rosen, MD, PhD
Mitchell Schnall, MD, PhD
John Waterton, PhD
Thomas Yankeelov, PhD

RSNA staff
Fiona Miller
Joe Koudelik
Susan Anderson

General Discussion:

- Dr Zahlmann announced her move from Siemens to Roche beginning July 1, 2009
- Dr Zahlmann plans to remain active with the QIBA DCE-MRI Technical Ctte

Topics for this call include:

- Update of NIBIB Contract Proposal
- Update of Phantom Study and Siemens Protocol
- Planned Clinical Test-Retest Activities

Update of NIBIB Contract Proposal

- Dr Zahlmann expressed her gratitude to all contributors, including Dr Rosen for providing the test-retest project outline
- Proposed project outlines and budgetary adjustments from last group call sent to Dr Sullivan for incorporation into a final version
- RSNA staff to distribute final proposal version to entire Tech Ctte when complete
- Dr Buonocore's project proposal sent to Dr Sullivan
    - Software development for phantom analysis
- Flexibility built into overall NIBIB budget; can shift funds as needed
- Need formal study proposal for Clinical Test-Retest Study
    - Need details from the phantom study results ASAP to help qualify the Clinical Test-Retest protocol

Update of Phantom Study and Siemens Protocol

- Drs Jackson and Purdy have compared the Siemens and GE scanner protocols at MDACC
- Slice thickness issues identified
    - Correlating slice position and parameters between Siemens and GE scanners remain a difficult issue to resolve
- Dr Purdy provided a Siemens-QIBA protocol (distributed to the group 07-01-2009) and posted to the QIBA Wiki at:

http://qibawiki.rsna.org/images/0/09/Siemens_QIBA_protocol_7-1-09_D_PURDY.pdf

- Dr Rosen to review the 07-01-2009 Siemens-QIBA Protocol and provide feedback; will send UPENN Siemens protocol to Dr Purdy for comparison, prior to beginning scans at UPENN
- Dr Purdy to resend entire PDF of Siemens VIBE sequence to Dr Rosen
- Drs Purdy and Rosen to finalize Siemens protocol by 07/06/09
- Phantom #2 ready to ship to UPENN
- Dr Karczmar to review UChicago data before uploading to NCIA FTP site
- Dr Ashton to analyze UChicago and UPENN data in efforts to determine possible implications for clinical test-retest study design
- Work-in-parallel proposed, e.g. pursue test-retest while phantom scanning is ongoing

MIRC Directory Naming Issues

- Dr Ashton made previous request to change the NCIA default file names to more descriptive and accessible names
- Dr Ashton to work with Mr John Freymann and Brian Hughes (NCI)
- Dr Zahlmann to follow-up with Dr Ashton concerning file naming; if file names cannot be altered, consider another database option?

QIBA-ACRIN Collaboration

- Dr Schnall forwarded to Dr Zahlmann an update overview of current ACRIN collaboration activities and how QIBA and ACRIN could collaborate
- Goal is to provide valid solutions in a cooperative environment
- Develop/Validate/Standardize approaches to DCE-MRI
- Caution that few sites will participate if project requires non-standard (i.e. non 'normal') clinical patient accruals – goal is to fit seamlessly into normal work flow. 42 patients may be difficult to recruit (7-9 patients per imaging site)
- Choose 5-6 sites to do bulk of work with some funding available
- ACRIN currently limits projects to lung and liver
- ACRIN adheres to 'formal' processes for every study
    - Scientific vetting of all protocols requiring ACRIN support
    - ACRIN may bypass review process and act as CRO if studies come with their own funding
    - ACRIN is cost-effective
- ACRIN may provide funding resources if project identified as an 'ACRIN project', e.g. paying for 1st MRI scan per patient
- Options for collaboration:
    - ACRIN can support a QIBA study, i.e. provide site qualification
    - Can be jointly branded, i.e. QIBA/ACRIN
- Dr Zahlmann acknowledged that ACRIN support would be very helpful; committee will discuss possible collaborative efforts

Profile needed for Clinical Test-Retest Technical Assessment

- Need to limit test-retest study to fewer, experienced MRI sites with proper medical physics support; there is some funding available
- Need a procedure to qualify these sites; ACRIN could contribute with site prequalification and profile testing, i.e. a site qualification initiative. ACRIN may receive funding to pre-qualify several sites for several modalities; will have time on scanners as part of prequalification initiative
- Variability with patients will make cross-site comparisons nearly impossible
- Consider sending same patients to various imaging sites within a larger urban area to help determine variability
- Needed for variability determination
    - Same scanner + same patient
    - Different scanner + same patient, e.g. two different scanners/vendor systems at the same site

Next steps:

- Drs Purdy and Rosen to finalize Siemens protocol
- Determining the QIBA-ACRIN relationship
    - Dr Schnall to send Dr Zahlmann possible ACRIN collaborations for review/comment ; RSNA staff will distribute to entire committee for reference
- Next DCE-MRI call scheduled in two weeks (July 15th)
- For next time...
    - Results of continued phantom study
    - Clinical test-retest protocol writing
    - How to collaborate with ACRIN