QIBA COPD/Asthma Committee
November 17, 2009
10 AM CST

Call Summary

In attendance
Philip Judy, PhD (Co-chair)
David Lynch, MD (Co-chair)
Andrew Buckler, MS
Harvey Coxson, PhD
James Crapo, MD
Sean Fain, PhD
Zachary Levine, PhD

Michael McNitt-Gray, PhD
John Newell, Jr, MD
Daniel Sullivan, MD

RSNA
Susan Anderson, MLS
Joe Koudelik

Proposed 2010 follow-up meeting to the Nov 2009 COPDGene Investigators Denver meeting
- A face-to-face meeting with vendors was proposed as a follow-up to the recent COPDGene investigators meeting held in Denver
    - Dr Crapo to poll for availability of Denver meeting attendees for March 2010 meeting
    - Combining with the 2010 QIBA Annual Meeting had been proposed but March/April 2010 more appropriate to host COPDGene follow-up f2f, following the CT workshop held in February
    - Goal includes some transportable outreach by QIBA

Manufacturer Involvement Needed
- Dr Crapo to push COPDGene activities to mitigate issues of longitudinal studies
- Need to be organized on all levels and across groups (e.g. neuro, abdomen, skeletal, lung, cardiac, oncology) with a strong voice; drivers to be pharma, clinicians and downstream customers
- QIBA meeting typically has vendor representation common to both groups
    - COPDGene needs resolution/acknowledgement from vendors as well
- Vendor pushback encountered concerning standardization of CT; vendors would benefit from real group engagement to balance commercially driven needs
- Critical need for repeatable CT scans across platforms to measure progression of COPD
- Volume correction issues need addressing as well
- Need CT to detect disease progress; once proven, stakeholders provide the routine with clinical tools used by all groups
- Begin with research goals with doses common to clinical outcomes
- Stress to vendors that a new quantitative market is being developed
- Repetitive quantitative data needed, e.g., lung and cardio to start and expand later
- Unified voice to be based on existing group activities
    - Drs John Boone and Michael McNitt-Gray = AAPM
    - Drs. Philip Judy and James Crapo = COPDGene
    - Reps from QIBA
    - FDA
- Long term – QIBA to play role with manufacturers
    - Dr Judy proposed identifying new stakeholders at the 2010 QIBA f2f
- November 2009 Imaging Biomarker Roundtable engaged vendors like Toshiba, Siemens, Philips, GE as well as other associations such as AAPM

Starting Point
- A specific question/request for vendors is needed; need to create communication and articulate goals
- Standards for lung quantitation range to test new equipment and algorithms, i.e., to confirm change seen is due to change in patients, not scanners
- The QIBA COPD/Asthma Committee is close to setting down specifications
- Dr Judy noted a long-standing 'wish list for' COPD
  - (1) Research scanner mode needed producing 1024x1024 reconstructions with no truncation Need current modulation mode (low dose) to get uniform noise – to solve dose issues
  - (2) Need single scanner repeatability
  - (3) Create mode to apply to patients across scanner makers
  - Need to add Dr Judy's 'wish list' to the Boone/McNitt-Gray talk with vendors on behalf of/with support of AAPM

Data sets
- Subtle changes in emphysema are major issue to solve; useful data already exists
- Datasets that contain 10,000 cases will be available from the COPDGene study, representing numerous scanners. 5 year follow-up is planned.
- Need to integrate across scanners and eliminate scanner change
- Mitigation of issues with existing data needed
- Federal government obligation to assist full access to as much data as possible, without infringing on intellectual property issues
- Better phantom to calibrate scanner needed
- Standards need to be developed

QIBA Profiles
- Profile needs to be developed to be coherent across all active groups (stakeholders)
- Profile needs to convince product management people; already familiar with the Profile concept
- Two benefits of the Profile seen
  - Dense [cohesion?]
  - Pre-biased to product management personnel who familiar with this concept
- Asthma side also needs to be actively involved

Phantom foam
- Dr Levine to CT scan various phantom foams
- Micro CT already done at NIST; animal and medical scale scans yet to be done
- Dr Judy comparing CT slice thickness with density measurements
- What metrics and standards can COPDGene expect to obtain?
- COPDGene Phantom Results; published work contains data from 20 acquisition sites
  - U Iowa analyzed data on density metrics; airway not done yet
- Forthcoming publication by Dr Newell to rationalize protocol to address current issues
- May need to approach airway geometry measurements independently from CT measurement issues
- Opportunity for a collaboration of QIBA Volumetric CT and COPDGene airway geometry measurement groups (i.e. basic physics)
- Airway imaging task may be more rigorous than lesion imaging in vCT analysis; yet both groups have much in common (e.g. vCT focusing on morphology now, later on density issues)

RSNA 2009 QIBA working meeting
- Wednesday, December 2, 2009, Quantitative Imaging Biomarkers Alliance (QIBA) Committee Working Meeting

- 2:00pm-4:30pm, Lakeside Center, Room E270
- Committee Breakouts (2:20pm-4:00pm):
    - Quantitative CT   Room E270
    - COPD/Asthma   Room E272A
    - Quantitative MRI   Room E262
    - Quantitative PET   Room E266

    - New names for the QIBA Committees reflect quantitation
        - "QIBA Volumetric CT Technical Committee" changed to "QIBA Quantitative CT Committee"

Next Steps:
- Identify the groundwork to be done and identify leaders for each proposed study
- Add to the "endpoint qualification" Roadmap; Mr Buckler to lend assistance; need to be clear in goals; nature of objective similar between QIBA and COPD with different starting points
- Dr Crapo to poll for availability for a March 2010 of all attendees of the Denver COPDGene meeting
- Dr Crapo to push COPDGene activities to mitigate issues of longitudinal studies
- Volume correction issues need addressing as well
- Mr Buckler to work on agenda for COPD working meeting
- Next call tbd at RSNA f2f; standing schedule of 2,3,4 week intervals tbd