QIBA Quantitative CT Committee

Monday, November 23, 2009
11 AM CDT

Call Summary

In attendance

P. David Mozley, MD (co-chair)
Lawrence Schwartz, MD (co-chair)
Kristin Borradaile, MS
David A. Clunie, MBBS
Patricia E. Cole, PhD, MD
Charles Fenimore, PhD
John Fraunberger
David Gustafson, PhD
Philip F. Judy, PhD
Michael McNitt-Gray, PhD
James Mulshine, MD
Kevin O'Donnell
Nicholas Petrick, PhD
Anthony P. Reeves, PhD
Yuanxin Rong, MD, MPH
Hiro Yoshida, PhD

RSNA

Fiona Miller
Susan Anderson, MLS
Joe Koudelik

RSNA 2009

Reminder to respond to Doodle poll at http://www.doodle.com/d4k5guwd3tnag28d for staffing Meet the Expert sessions at QIBA posters during RSNA 2009

Update on COPD/Asthma committee

- Have developed matrices for density and morphology (Dr Lynch) in preparation for developing Claims for Profile(s)
  - Matrices 2&3 to be harmonized
- Mr Buckler attended COPDGene investigators' Denver meeting in early November 2009
- Mr Buckler and Dr Judy continuing work on defining groundwork
- Mr Levine has completed micro-CT scans to characterize phantom foam materials; Dr Judy will scan same materials with mini-CT
- Roadmap from roundtable has not been discussed yet in the committee
- Discussion of organizing a conference in spring 2010 on COPD mitigation schemes; Dr Crapo conducting preliminary polling of availability

Discussion of neoadjuvant widow of opportunity Profile

- The Lung Nodule Protocol in the UPICT template is the base for the neoadjuvant window of opportunity Profile
- Group discussion on modifying specific elements and values
  - Draft title: Surgical management for detected cancer (early stage)
  - Operative management of lung cancer (stages 1-3a in which the tumor is <1cm)
  - Probably related to stage 1 or 1-2; stage 3 includes a primary with nodal involvement
- The use of this Profile will be more for research than therapeutic use
  - Involves expression profiling (by molecular testing) to determine whether target is modified by drug exposure in short time period (2-3 weeks) before surgical intervention
  - Rigorous quality control measures are critical
  - Profile will push the technology
- May consider two Profiles for neoadjuvant; one window of opportunity and one neoadjuvant therapy
  - Window of opportunity is a pipeline research activity which involves smaller trials at experienced centers; more a biomarker trial than a therapeutic trial
  - Observing range of response of small, focal tumors
  - Profile would adhere to tighter precision, e.g. "bull's eye" ideal ranges with 2mm recon identified as minimal

    - Patients are expected to survive longer; radiation doses are similar to cancer clinical trials
    - Scalability into clinical application would be technology dependent, pushing the limits of technology and challenging
    - Phantom use and strict QC crucial
- A neoadjuvant therapy trial would not require the same strict QC, etc.
- Profile editing:
- Mr O'Donnell made changes in the draft document and will post on wiki
    - Changes included recommendations for slice thickness as thin as possible, e.g. 1.25mm or less for early stage lung cancer
        - Dr Schwartz could provide examples from large trials
    - Setting of 16 slice (Acceptable), 64 slice (Target) and 64+ (Ideal)
    - Note to consider 'multi-thickness' values for tumor and surrounding areas
    - Algorithms related to resolution and slice thickness—high resolution images with high functioning algorithm, high resolution images with normal (soft tissue) algorithm, normal resolution images with normal algorithm
    - Want single breathold
    - Field of view and pixel sixe to be tied together for entire lung view
    - Clarifying involvement of adrenal glands
- Continue editing values and notes in section 7.1.2 table related to Data Structure

Next Steps

- Mr O'Donnell to post draft neoadjuvant window of opportunity Profile on wiki
- Dr Mulshine to supply verbiage for Executive Summary section
- Continue discussion of a tutorial page for clinicians on imaging physics
- Agenda for next call to include continued work on Profile
- Next group call to be scheduled for Dec 7 at 11 am CST