QIBA Quantitative CT Committee Update
Monday, April 26, 2010
11 AM CDT

Call Summary

In attendance

Andrew Buckler, MS (co-chair)
P. David Mozley, MD (co-chair)
Kristin Borradaile, MS
Sung Chang, PhD
Charles Fenimore, PhD
John Fraunberger
Philip F. Judy, PhD
Grace Kim, PhD
Michael McNitt-Gray, PhD
James Mulshine, MD
Nicholas Petrick, PhD
Daniel C. Sullivan, MD

RSNA

Fiona Miller
Susan Anderson, MLS
Joe Koudelik

Group 1A datasets

- Dr. Mozley submitted draft statement on the need for standardized reference objects of known volume: *"An important problem now adversely affecting the developers of new clinical tools for quantifying tumor burdens is that the true volume of neoplastic masses in living humans can not be known, because even measurements immediately before surgery with non-invasive techniques followed by measurements after surgical excision are confounded. This is because it is rarely possible to dissect away all of the normal tissues away from a neoplastic mass, maintain the microcirculatory system that keeps the whole tumor volume inflated, reproduce the interstitial turgor pressure that regulates intra-cellular volume, and reproduce all of the other physiological state characteristics that influence the true volume of masses as they sit in vivo. For this reason, new technologies will need to rely on man-made models of tumors in order to characterize their accuracy."*
- Pharma is using vCT analysis for retrospective and prospective trials
    - Precision and accuracy of measurement needed by internal and external stakeholders
    - Currently pharma partners use different image analysis tools and software; partners are vetted by sending clinical case with known boundaries
    - To report accuracy, need models of known type
    - This information would be used internally for management and externally in correspondence with regulatory agencies
- May be strategically useful to consider statement and document on current state of variance in clinical practice, e.g. from pharma, co-op groups
    - *Ann Oncol* article and draft Briefing document address this issue as foundation for qualification of biomarkers
    - Journal abstract of manuscript recently submitted for publication by Merck, provided by Dr Mozley, also states the case
- Dr Petrick reviewed types of data representing different nodules (sizes and shapes) and scanners and noted the number of datasets for each type of data; releasing and posting data to NBIA may take up to one year
- Committee to assist with segmenting 1A data sets by
    - 1) identifying imaging characteristics: Ideal-Target-Acceptable; and
    - 2) defining objects of most interest in each subset
- Identifying what data is needed:
    - Dr McNitt-Gray will review Profile re: acquisition parameters
    - Suggestion to involve the PhRMA Imaging Group (PIG) in identifying data needed by pharma, e.g. information in Profile on CT acquisition parameters (not nodules) may not be most useful for pharma
    - Suggestion to use RadPharm reads as a pilot set; consider using 1A subteam to catalog RadPharm-read data

- Interest in keeping clinical context as large as possible, e.g. neo-adjuvant vs. late-stage lung cancer

Next Steps

- Continue discussion on mapping Profile and data set from 1A: define what data needs to be identified
- Dr Petrick to list RadPharm cases
- Dr McNitt-Gray to review Profile re: acquisition parameters
- Next call scheduled for Monday, May 3 at 11 am CDT