QIBA FDG-PET Biomarker Committee (BC) Call
02 February 2018 at 9 AM CT
Call Summary

In attendance:

- Rathan Subramaniam, MD, PhD, MPH (Co-Chair)
- Howard Higley, PhD
- Nancy Obuchowski, PhD
- Fiona Miller

- Scott Wollenweber, PhD (Co-Chair)
- Paul Kinahan, PhD
- Amy Perkins, PhD
- Joe Koudelik

- Hubert Beaumont, PhD
- Martin Lodge, PhD
- Anne Smith, PhD
- Julie Lisiecki

- Terry Brown
- Jayant Narang, MD
- Mitsuaki Tatsumi, MD

- Chris Crisman, MBA

Moderator: Dr. Wollenweber

Claim Confirmed Clinical Trial Efforts (Dr. Kinahan)

- The application for ACR Foundation funding is due by the end of February
- Funding is needed for follow-up scans for approximately 150 subjects at $1,500 pp = $225,000
  - If accepted, the trial would be run by ECOG-ACRIN
  - Dr. Kinahan to follow up with the FDG co-chairs on this application
- EORTC is also working to increase PET studies and reassess the PERCIST response criteria; Dr. Kinahan will follow up with Drs. Shankar and Boellaard and check for redundancy
- Issues remaining that may need to be reviewed include the following:
  - Checking whether skeletal lesions are good measures of repeatability
  - Looking into metastatic disease tracking, as the current criteria does not match PERCIST criteria
  - Survey to be sent to members of the ECOG/ACRIN Experimental Imaging Sciences Committee to gain their input
  - Need to determine what diseases to study and how to record 100+ patients
    - Consideration of solid tumors vs. lymphoma
    - Would like to tie into an existing trial, such as the bone imaging study
    - Want to collect a variety of tumors across organ/body regions
    - Need to find out what ECOG-ACRIN studies are ongoing and how to develop parameters for 125 – 150 samples
    - Follow up guidance from Dr. Obuchowski will also be needed for protocol design
      - A stratified design is desired, which would include the three most common cancers, so as not to dominate the sample with only one type
      - Dr. Obuchowski would need a minimum and maximum number of participants from each site to design the study
      - No more than 150 can be collected across 5-10 imaging centers, with a maximum of 5 lesions per subject, in a 7-day timeframe
  - Need to reconcile whether reducing SUVmax from 4 to 2.5 cm lesions will affect minimum criteria
    - Lower SUV baseline measurements may not identify lesions as tumors
    - A 95% confidence interval is needed, and changing the baseline SUV may affect study design
  - Need to decide whether PERCIST would be used to define the selection of lesions
    - Possibly two lesions would be selected from each organ, but a plan to divvy up the measurements is needed
  - Need to determine whether changing the baseline SUV will have biological implications
    - BC members recommended sticking with SUVmax, as this was the measurement used to prove the Profile
    - A post-op analysis will be added to test the PERCIST cut point to see if there is any difference
Point-spread function measurements are appealing; however, they may not have the full power needed for every study
  - Some limits for analysis will be explored to better understand this
  - Test-retest time frames must also be established
    - One to seven days, similar to the ACRIN 6678 trial, was recommended

*Radiology* Article Update (Dr. Kinahan)

- About half of the recommended edits have been drafted
- Dr. Kinahan will forward to the BC leaders for review/feedback on the more challenging editor comments, followed by resubmission to *Radiology* editors

Round-6 Funded Projects Wrap Up:

- Dr. Lodge completed his project on time, and an article focusing on point-spread-function was published in *Medical Physics* by Drs. Lodge and Boellaard
- Dr. Turkington was working on measuring variability and how it can be estimated across algorithms
- Drs. Lodge and Turkington were invited by Dr. Wollenweber to present a summary slide of their projects on the next BC call, March 2nd

Citation provided by Dr. Lodge:

- Mansor S, Pfaehler E, Heijtel D, Lodge MA, Boellaard R and Yaqub M. Impact of PET/CT system, reconstruction protocol, data analysis method, and repositioning on PET/CT precision: An experimental evaluation using an oncology and brain phantom. *Medical Physics*. 2017; 44(12):6413-6424. doi: [10.1002/mp.12623](https://doi.org/10.1002/mp.12623); PubMed Citation

Action Items for Next Call:

- Dr. Kinahan to circulate updated proposed paper for *Radiology* for review and comment by the BC co-chairs prior to the next call (March 2nd) to prepare for discussion on the call
- Dr. Wollenweber to invite Drs. Lodge and Turkington to present final reports on the next call
  - Report to include a summary slide with main points
  - The final reports (in full) will only be submitted to the biomarker committee co-chairs

*Nuclear Medicine WebEx Schedule:*

- **02/09** PET Amyloid BC
- **02/16** SPECT BC
- **02/23** NM Coordinating Ctte CC
- **03/02** FDG-PET BC
- **03/09** PET Amyloid BC
- **03/16** SPECT BC

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