

## 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)

Scott Wollenweber, PhD (Co-Chair)

Hubert Beaumont, PhD

Terry Brown

Chris Crisman, MBA

Howard Higley, PhD

Paul Kinahan, PhD

Martin Lodge, PhD

Jayant Narang, MD

Nancy Obuchowski, PhD

Amy Perkins, PhD

Anne Smith, PhD

Mitsuaki Tatsumi, MD

### RSNA

Fiona Miller

Joe Koudelik

Julie Lisiecki

**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 \$1,500pp = \$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 2<sup>nd</sup>

#### **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 2<sup>nd</sup>) 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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