QIBA PET Myocardial Blood Flow Biomarker Committee (BC)

Thursday, February 18, 2021 at 9 am CT
Call Summary
Additional notes provided by Drs. Moody and deKemp

In attendance	**RSNA Staff**
Robert deKemp, PhD (Co-Chair)	Julie Lisiecki
Marcelo Di Carli, MD (Co-Chair)	
Jonathan B. Moody, PhD (Co-Chair)	
P. David Mozley, MD	

Moderator: *Dr. deKemp*

Call time discussed

- It was decided that calls will be held on the 2nd and 4th Mondays at 9 am CT (10 am ET)

Dropbox and Profile Resources

- Dr. Mozley suggested that the co-chairs review the SPECT template, which was originally modeled on the FDG-PET Profile; the co-chairs have access to the shared Dropbox folder for SPECT, as well as a new folder for PET Myocardial Blood Flow (PET-MBF)
- A newer Profile template is now being used; it was suggested that a cut and paste method could be used to start the process based on the Amyloid Profile, editing out irrelevant details later. This existing Profile includes different tracers, which is also relevant for the PET MBF profile.
- RSNA staff will follow up with PET Amyloid BC co-chairs to ask for the latest version of their Profile to share with the group

QIBA wiki

- Staff will provide co-chairs editing access for their wiki page
- The co-chairs asked that "PET" be added in front of Myocardial Blood Flow on the wiki page
- RSNA staff have created a preliminary wiki page – more details will be needed
- Call summaries and any working documents (no copyrighted items) can be posted

Planning discussion

- Brief discussion on literature review and some articles to consider for test-retest repeatability, as measured on different days
- Dr. Di Carli mentioned some options for data acquisition from upcoming and past clinical trial studies
  - He has a study group which includes a placebo arm that will be returning for a repeat study
  - No published data are available yet
  - He will try to get a list of patients that may be helpful to include dynamic series, heart rate, and pressures at rest and at stress, along with tracer and dose used in DICOM dynamic scan file
    - Processing was done consistently in a core lab
  - Some updates may be needed to the IRB and data sharing agreements
- Additional possible studies include:
  - Two chronic kidney disease studies
  - One for diabetics
  - One for HIV
  - All of these studies have a control arm with serial PET MBF measurements
  - There is another large study for rheumatoid arthritis with no placebo arm
  - The RAMPART study [1] (Relative and Absolute Myocardial Perfusion changes as measured by Positron Emission Tomography to Assess the Effects of ACAT Inhibition: A Double-Blind, Randomized, Controlled, Multicenter Trial) could be helpful due to data with N-13 ammonia PET, MBF, and hemodynamics.

- ▪ Dr. Di Carli to remove patients that were treated and provide the Excel data
- ▪ Study results were negative but include multicenter data using different cameras, the same tracer (adenosine), different PET scanners (not PET/CT), and the same protocol
- Dr. Moody was asked to share the inclusion criteria that he used in a recent study, which is in-progress

[1] Mishra RK, Dorbala S, Logsetty G, Hassan A, Heinonen T, Schelbert HR, et al. Quantitative relation between hemodynamic changes during intravenous adenosine infusion and the magnitude of coronary hyperemia: Implications for myocardial perfusion imaging. Journal of the American College of Cardiology. 2005 Feb 15;45(4):553–8

Claims development discussed
- Test-retest Precision of Myocardial Blood Flow (MBF) and Myocardial flow reserve (MFR) will be the initial focus
- Accuracy of MBF may be considered in the future, but there is no universal clinically accepted validation standard for comparison
- Prognostic value of MBF and MFR for risk-stratification may be helpful to develop standardized threshold values for risk-stratification.

Inviting other committee members
- The co-chairs will refrain from inviting additional committee members until their Profile outline is better organized, though assistance from Drs. Obuchowski and Boss or Mr. O'Donnell would be welcome

Action items:
- **Dr. deKemp** to prepare a more developed summary of the literature and other internal data available for test-retest analysis before the next call
- **Dr. Moody** to send inclusion criteria that were used with recent cohort to Dr. deKemp
- **Dr. Moody** to check on data sharing agreement between INVIA and Brigham and Women's Hospital
- **Dr. Di Carli** to provide tabulated data for the untreated cohort from the RAMPART study

Next Call: March 8, 2021 at 9 am CT (2nd and 4th Mondays)
- Dr. Obuchowski will be invited to review the test-retest data and claim development

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Parties interested in joining the QIBA LinkedIn page for QIBA updates should visit: https://www.linkedin.com/company/rsna-qiba

Process Committee
- All Profile Editors are encouraged to join the QIBA Process Committee to learn about QIBA writing tips and processes and network with other Profile Editors to exchange best practices

Contact information for QIBA Process Committee Leaders:
- Kevin O'Donnell, MASc (Chair) | Michael Boss, PhD (Co-Chair)

QIBA Wiki Resources:
- Dashboard updates | Profiles | QIBA Profile template | How to Write a QIBA Profile | Claim Guidance

Inventory of QIBA tools:
- QIBA LinkedIn page (please join / follow) | QIBA News | QIBA Community (discussion board)

Other QIBA resources: QIBA Webpage | QIBA Wiki | QIBA Biomarker Committees | QIBA Organization Chart

EndNote: To obtain access to the RSNA EndNote citations, please send an email request to: sstanfa@rsna.org.