QIBA Dynamic Contrast-Enhanced (DCE) MRI Biomarker Committee (BC) Call

Monday, March 29, 2021 at 11 a.m. (CT)

Call Summary

In attendance			**RSNA staff**
Hendrik Laue, PhD (Co-Chair)	Hyunki (Harrison) Kim, PhD, MBA	Russell Rockne, PhD	Joe Koudelik
Michael Boss, PhD	Cristina Lavini, PhD	Gudrun Zahlmann, PhD	Susan Stanfa
Todd Jensen, PhD	Nancy Obuchowski, PhD		

Update on DCE-MRI Profile

- The **Public Comment Resolutions Sheet** was referenced to address comments; details on resolutions reached through committee discussion and consensus are included
- DCE-MRI BC members are welcome to work on edits to the **Profile**
- Dr. Laue followed up re: Dr. Sourbron's comment discussed during the March 8 DCE-MRI BC call
    - Vendors to be consulted to determine whether repetition times (TR) sequence (0018, 0080) works for all scanners; echo-spacing/flash sequencing may be needed on Siemens equipment
    - Discussion re: whether this should be included in the Profile
    - If included, it would need to be noted that if 2D sequences are used, the TR may be affected on Siemens scanners due to VIF issues
    - Dr. Lavini to look into rescaling and its impact when using T1 maps

The following comments submitted during the public comment period were addressed:

Youngkyoo Jung, PhD, DABR | University of California, Davis

- Appendix headers to be retitled
- Suggestion to include constant prescan parameters in the Profile; parameters, such as Tx and Rx gains, could be ensured if vendor specific tags are provided
    - Discussion on the necessity of this, specifically re: variable flip angle (vfa)
    - It was noted that the rescaling factors are not Tx or Rx for Philips
    - Dr. Jung to be contacted and invited to April 12 DCE-MRI BC call

- Suggestion to describe specific procedures to ensure constant pre-scan calibration, e.g., "If an option to choose manual or auto pre-scan is available, it is advisable to run a sequence with the highest flip angle with auto pre-scan first and run the others, including DCE scan, with manual pre-scan to ensure constant pre-scan parameters"
    - Discussion re: whether this would be needed in routine scanning or sequence development and if it is an option on the scanner (if a vfa is predefined); if so, it could be included in the profile

Yoshifumi Kuroki, MD, PhD | Niimura Hospital (Japan)

- Acquisition of at least five dynamics (phases) minutes of post injection recommended in the Profile is longer than the criteria based on PI-RADS v.2.1; acquisition of at least 3 dynamics (phases) minutes of post injection was suggested
    - Discussion re: whether this is applicable to the model-based (Tofts) analysis; k-trans is not addressed as a biomarker
    - Dr. Laue to contact Dr. Kuroki to explain rationale for the committee decision not to incorporate this suggestion into the DCE-MRI Consensus (Stage 2) Profile

Daniel J. Margolis, MD | Weill Cornell Medical College

- Three Claims for prostate DCE, where the higher field strength requires a much greater change in the pharmacokinetic parameter to suggest a biologic change, may be counterintuitive and confusing
    - It was suggested that the second Claim (with sub-Claims) be consolidated into one
    - While the DCE-MRI BC agreed with that this may be confusing for some, it has been based on test-retest publications, which are mentioned in the discussion section
    - Additional, clarifying detail and rationale will be added

Next call: Monday, April 12, 2021 at 11 a.m. (CT) [2nd & 4th Mondays of each month]

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