

QIBA Contrast Enhanced Ultrasound (CEUS) Biomarker Committee (BC) Call

Friday, August 11, 2017; 11 AM CT

Call Summary

In attendance			RSNA
Mike Averkiou, PhD (Co-Chair)	Ged Harrison, BS	Andy Milkowski, MS	Joe Koudelik
Paul Carson, PhD	Kenneth Hoyt, PhD	Nancy Obuchowski, PhD	Julie Lisiecki
Todd Erpelding, PhD, MSE	John MacQuarrie, PhD	Nikolay Tzaribachev, MD	
Tim Hall, PhD			

Moderator: Dr. Averkiou

Review prior call summary: July 14th summary approved as submitted

Discussion included:

- Review of **action items** from the July 14th call including:
 - Dr. Barr to draft an initial list of flow phantom performance parameters for BC review and feedback
 - Any suggestions for necessary performance parameters may be sent to RSNA Staff for compilation: jlisiecki@rsna.org
 - No updates to report at this time
 - Dr. McCarville to provide a list of questions / problems with standardizing parameters for quantitation
 - An infusion technique based on a reference tissue (standard) for measurement was suggested
 - A discussion took place amongst group members regarding contrast agent supply protocol (bolus vs. infusion)
 - It was determined that bolus is more appropriate for liver
 - Infusion may be better for other applications and the CEUS Profile will be organ/disease specific
 - Dr. Tzaribachev to follow up with Dr. Laue regarding DCE-MRI protocol applications and possible comparable parameters between the two modalities
 - Additional discussion regarding this topic may take place on the next call (Sept 8)
- Volunteers for the Literature Review to report back to the group with their findings on the next call (Sept 8)
- Drs. Averkiou and Hoyt reported on initial results from phantom studies, including data analysis with various software packages
 - Dr. Averkiou demonstrated use of the ATS laboratories “flow” phantom via photos and interactive diagrams
 - A simpler custom-made (and inexpensive) single- tube phantom was suggested to replace the ATS phantom
 - This would allow for testing various tube diameters with easy changes
 - It would provide easy control of depth
 - There would be no background tissue to check the imaging mode tissue suppression
 - Data analysis comparisons were
 - Not all data could be extracted for offline processing
 - The same time-intensity curve (TIC) data were extracted from *QLab*, *QStation*, and *VueBox*
 - Data using various probes were also reviewed
 - Next steps for the phantom include:
 - Agreeing on a specific phantom procedure including:
 - Phantom design and performance parameters
 - Intensity vs. concentration (confirmation of linearity range)
 - Bubble destruction threshold (per imaging system)
 - TICs collection and analysis
 - Extraction of bolus parameters: RT, MTT, PI, and AUC

- Multi-center, multi system validation of TICs from the QIBA phantom
- **Software for Clinical Use**
 - It is important to first establish that all are using the same analysis software
 - The group discussed *Qontrast*, a relatively newly available software from Advanced Medical Imaging Development (AMID)
 - Siemens has tried this software, which has received FDA 510k approval for use with offline work-stations and is compatible with *Q-lab* and *VueBox*
 - Additional licenses would be helpful for the group to test
 - Mr. Milkowski volunteered to acquire the AMD software for future analysis

Action Items:

- Mr. Milkowski to follow up regarding *Qontrast* software
- Dr. Barr to draft an initial list of performance parameters for BC review and feedback
- Dr. Tzaribachev to follow up with Dr. Laue regarding DCE-MRI protocol applications and possible comparable parameters between the two modalities (Sept 8)
- Volunteers for the Literature Review to report back to the group with their findings on the next call (Sept 8)

Ultrasound CEUS BC QIBA wiki page: http://qibawiki.rsna.org/index.php/Ultrasound_CEUS_BC

WebEx Calls:

- **Sept 01:** SWS BC
- **Sept 08:** CEUS BC
- **Sept 29:** US Coordinating Ctte

RSNA Staff attempt to identify and capture all committee members participating on WebEx calls. However, if multiple callers join simultaneously or call in without logging on to the WebEx, identification is not possible Call participants are welcome to contact RSNA staff at QIBA@RSNA.org if their attendance is not reflected on the call summaries.

SAVE-THE-DATE:



QIBA Working Meeting at RSNA 2017 | Wednesday, November 29, 2:30-5 pm – Lakeside Center