

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

Friday, February 8, 2019; 11 AM CT

Call Summary

Additional details provided by Dr. Averkiou

In attendance

Mike Averkiou, PhD (Co-Chair) Eric Juang
Christian Greis, PhD Reinhard Kubale, MD
Tim Hall, PhD Zaiyang Long, PhD
Ged Harrison Wayne Monsky, MD, PhD

RSNA

Joe Koudelik
Julie Lisiecki

Moderator: Dr. Averkiou

Quantification Software:

- Dr. Averkiou reported that the VueBox license for UW that is currently being used for the QIBA study has expired. Mr. Thierry Rognard (Bracco) will look into this and take the necessary steps for renewal.
- There is a problem reading the Siemens/Acuson Sequoia loops with VueBox that UW has collected. VueBox/Bracco has an agreement with Siemens that allows them to directly quantify data from the new Siemens Acuson Sequoia with VueBox. Siemens is working towards fixing this problem.
- Dr. Averkiou is working on creating a curve fit code as a free/shareware software to distribute to anyone interested. It will be a standalone file (executable) compatible with most PCs.
 - This would be helpful to those who do not have access to MATLAB or VueBox
 - It would provide curve fitting of time intensity curves (TIC) collected with different scanners as long as there is a way on the system to output linear/linearized data.
 - (All systems currently being considered in the QIBA project have this capability).
 - Dr. Averkiou hopes to make this available in a month or so.

Discussion items were:

- TIC curves collected for the variability study were shown for a visual appreciation of the quality and degree of variability of these curves.
 - The phantom setup can be reviewed [here](#)
 - Three systems have been used for comparison: iu22, EpiQ, and GE LOGIQ E9
- Dr. Averkiou has also been testing the new Siemens Acuson Sequoia System
 - No VueBox results are available due to calibration and VueBox license issues
 - Calibration issues were resolved on 2/6
- Dr. Averkiou is currently collecting variability data with SonoVue for the Siemens system to add to the data currently available for the 3 other scanners (Epiq, iU22, Logiq E9).

Amplitude Standardization:

- There was an issue with the GE Logiq E9 system in exporting values that are very small (typically 10^{-4}). The variability for the Logiq E9 was reduced once those values were multiplied by at least 100x before curve fitting.
- The standardization of the TIC amplitude and the definition of a reference value was discussed. Most BC members expressed their support of this effort.
- Dr. Greis stated that QIBA should set the performance standard and create references for companies to follow in order to be conformant with the Profile
- The suggestion is for defining a reference value for the amplitude under an agreed condition.
 - Once defined, any scanner vendor would be able to implement this on their system.

Proposed Next Steps / Action items:

- On the next call, March 8th, Dr. Averkiou will ask for BC consensus to adopt the prescribed calibration method discussed on the last few calls
 - He will draft some wording for BC members to review, including the proposed amplitude standardization steps
 - Feedback on the proposed amplitude standardization from industry partners would be appreciated by March 1st to Dr. Averkiou: MAverk@uw.edu.
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The next scheduled QIBA ultrasound calls will be as follows at 11 am CT:

02/22	US Coordinating Committee
03/01	SWS BC
03/08	CEUS BC

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