



AIUM/QIBA Ultrasound Volume Blood Flow Biomarker

Summary 02-August-2021

Attendees:

Brian Fowlkes, Jim Zagzebski, Jing Gao, Stephen Pinter, Jim Jago, Jonathan Rubin, Megan Russ, Michelle Robbin, Nicole Lafata, Oliver Kripfgans, Paul Carson, Rimon Tadross, Shriram Sethuraman

AIUM Staff: Therese Cooper

Action items in red.

1. Review of Previous Call Summary – 14-July-2021. Let Brian know if there are any corrections.
2. Action Items
 - 2.1. Discussion of 2D spectral Doppler in QIBA Phantom
 - 2.1.1. Need to examine conditions in the acquisition to determine if data is useful. Also tests being performed in conjunction with project at Baylor. Stephen reviewed the data and has not had a chance to work on this. Stephen will update as soon as possible. Data collection at Baylor College of Medicine continues on the NIH umbilical cord study. Ultimately there should be 60 cases.
 - 2.2. Abstracts for Ground Work Studies. Brian suggested flow phantom modeling as a potential ground work study. Again, if you have an idea for an abstract let Brian know.
 - 2.3. Brian showed results from Dr. Zonnebeld to the group. Not the same format as other information in the profile but does provide interobserver comparison for volume flow measurement before and after dialysis access placement. Brachial artery flows are high with unknown measurement bias. Brian would like to ask the author if he can do this in terms of the coefficient of variation. Still no reply from Dr. Zonnebeld so we may have to determine if there is any option here.
 - 2.4. Brian asked nephrology colleague (Rick Weitzel, MD) about the range of volume flows seen in measurements on dialysis machines. Brian provided a summary of his comments and placed notes in the Profile.
 - 2.5. New phantom drawings should be coming from Cristel soon reflecting suggested changes by the profile working groups. Hopefully for the next full BC meeting.

3. Review of Flow Phantom Modeling – No updates at this time.
4. Update on VBF Profile Discussions
 - 4.1. Review of current draft and updates from Profile Task Group
 - 4.1.1. Discussed the need for a followup article to the Radiology publication where the statistical basis of the profile claims could be presented in detail. Need to determine if this is to be pursued and in what form it would take. This would in part be based on the length of the document needed to detail this properly.
 - 4.1.2. Further discussed how to define pulsatile flow vs. constant flow. Jon Rubin discussed his quick review of the literature finding that at least one case was considered abnormal at an RI of 17%. So, a threshold for pulsatile flow would need to be logically derived.
 - 4.1.3. Jim Z. suggested that there would need to be some criteria that would establish that the acquisition is rapid enough to sample pulsatile flow appropriately.
 - 4.1.4. Acceleration was also suggested as a possible approach to evaluate if the acquisition is sufficiently fast. Todd E. said that the Canon scanner has an acceleration metric.
 - 4.1.5. Discussed the relative merits of removing the stenosis in the phantom.
 - 4.1.5.1. It was generally felt that this was ok given the desire for higher flow rates in the phantom and the more complex flows expected in the curved tubing.
 - 4.1.5.2. Paul C. suggested possible language to be included explaining this.
 - 4.1.6. Discussed who and when QA measurements would be made. This is a huge issue being considered by SWS group.
 - 4.1.6.1. Is a complex phantom needed for routine QA?
 - 4.1.6.2. Testing by the companies would require a more complex phantom to make sure the selected method is robust in a variety of flow conditions.
 - 4.1.6.3. There is need of some phantoms for training, at least “training the trainers”.
 - 4.2. Review of outstanding comments. Brian will have a clean draft.
5. Matters Arising