

QIBA CT Volumetry Biomarker Ctte (BC) Call

27 February 2020 at 11 AM (CT)

Call Summary

In attendance

Rudresh Jarecha, MBBS, DMRE, DNB (Co-Chair)

Ehsan Samei, PhD (Co-Chair)

Maria Athellogou, PhD

Jocelyn Hoye, PhD

John Lu, PhD

Guillaume Orioux, PhD

Nicholas Petrick, PhD

Ying Tang, PhD

RSNA

Joe Koudelik

Julie Lisiecki

Moderator: Dr. Jarecha

Discussion:

- Drs. Samei and Hoye gave a brief overview of data they obtained regarding resolution tolerances and what F50 values would be supportable
- They examined how noise would be affected with an increase from 0.3 to 0.5 mm resolution
 - Would noise remain consistent with an increase in correlation?
 - Would an increase in distance provide a higher resolution image?
 - In turn, how do these changes impact volume measurements?
- They explored noise recommendations for different F50 values and slice thickness less than 1.5 mm
 - The current protocol states that F50 needs to be between 0.3 and 0.5 mm resolution with noise less than 60 Hounsfield Units (HU)
 - If there is a move from 0.5 to 0.7 mm resolution, the noise will increase from 60 – 80 HU
 - It is not yet known if increasing the boundary and the noise may have a detrimental impact

Publication:

- Dr. Hoye has submitted a paper on this topic with a focus on morphology, not just the volume
 - Dr. Hoye and Samei have received feedback and are making revisions with plans to resubmit
- Dr. Samei suggested that a brief presentation at the QIBA Annual Meeting (QAM) would be appropriate to demonstrate how the BC is working to advance the CT Volumetry Profile
- The work of Drs. Samei and Hoye could help to move the Profile to the next stage
- Dr. Samei to draft a brief project proposal regarding groundwork needed to advancement the CT Volumetry Profile
 - Dr. Samei agreed to put together the proposal and an accompanying slide summarizing the findings
 - He will circulate the slide to the BC for review and comment
 - Dr. Jarecha will contact QIBA Leadership to notify them of the planned presentation for the QAM (as a demonstration of BC progress)

Next Steps:

- Reviewing binning of lesion sizes (e.g., small, med, large) as a change proposal for the Profile
- Obtain input from Dr. Obuchowski regarding the work of Dr. Samei's group to determine if a revised coefficient of variation is needed

Action items:

- All are asked to consider potential future projects and goals for the BC for 2020 – 2021 and to share them with BC leadership: Dr. Jarecha (Rudresh.Jarecha@parexel.com), Dr. Samei (ehsan.samei@duke.edu), and Dr. Siegelman (jen.siegelman@gmail.com)
- Invite Dr. Schwartz to a future CT Volumetry call to discuss his study

Next Call: To be scheduled for **Thursday, March 12th** at **11 am CT**. Doodle poll will be used to confirm participation.