

QIBA CT Angiography Biomarker Committee (BC) Call

27 August 2018 at 11 AM CT

Call Summary

On Call

Andrew Buckler, MS (Co-Chair)

Luca Saba, MD (Co-Chair)

Márton Kolossváry, PhD

Nancy Obuchowski, PhD

Kevin O'Donnell, MASc

Taylor Richards, MD

Marly van Assen, MSc

Akos Varga-Szemes, MD, PhD

RSNA Staff

Joseph Koudelik

Susan Stanfa

Atherosclerosis Biomarkers Profile v1.0 Update

- Progress continues on Profile-writing, which is currently in the initial authoring phase
- Mr. Buckler has created a basic Profile framework based on the QIBA CT Volumetry Profile; existing text has been “greyed-out” as placeholder text but remains in order to help guide the group
- Mr. Buckler reviewed the Table of Contents
- CT Angiography BC members were reminded about the QIBA Wiki
 - Main page located at: http://qibawiki.rsna.org/index.php/Main_Page
 - RSNA staff agreed to include link to the QIBA Wiki on future emails
 - Latest version of the Atherosclerosis Biomarkers Profile, as well as other useful documents can be found on the CT Angiography BC page at:
http://qibawiki.rsna.org/index.php/CT_Angiography_Biomarker_Ctte
- Executive Summary content has been added and work is underway on image acquisition and image analysis sections; assessment procedures to be addressed soon
- Although the claims are not yet being discussed, they will be important guiding elements for the Profile
- An overview Appendix A: Acknowledgements and Attributions
 - Currently, there are two categories: co-authors and contributors
 - The contents of these lists will evolve over time during work on the Profile
- Overview of Appendix C: Imaging Resolution Details
 - Tables deemed very important; Mr. Buckler provided references for the numbers listed
 - CT Angiography BC members were asked to review the information offline and bring suggestions/comments to Mr. Buckler
- Overview of Appendix D: Measurands with Descriptions and Units
 - Determining the proper metric (measurand) will aid in determining critical parameters
 - Noted was the need for core group of multiple measurands to characterize plaque burden
 - There are different types of plaque burden which will include quantitative assessments to consider including:
 - Vessel structure (lumen and wall areas, from which various other measures are derived)
 - Tissue characteristics (i.e., Lipid-rich necrotic core and calcified areas)
- Appendix E: CT Angiography Signal Applicability and Published Performance was reviewed
 - Progress began by slotting in familiar research work
 - Questions regarding basic intent of this appendix were welcomed

Image Acquisition

- Three tables were substantially developed
 - 1. Specification common to arterial beds
 - 2. Protocol specification unique to coronary arteries
 - 3. Protocol specification unique to carotid arteries
- Purpose is ultimately to establish quantitative performance measures that the hardware is producing
- Feedback on hardware protocols was requested
- Focus was placed on the specification tables that bear the actual requirements within the Profile rather than the discussion text as it is more helpful to focus on actual requirements
- The specification table is critical to providing guidance needed by Profile users
- Protocols will vary from site-to-site; QIBA aims to ensure that protocols used meet quantitative requirements (vs. using same approach)
- Feedback requested for Section 4.1 Assessment Procedure: In-Plane Spatial Resolutions and 4.2 Assessment Procedure: Voxel Noise; work from the Lung Density BC was suggested as a reference for metrics
- Dr. Richards was asked to propose edits to the table in image acquisition section; the CT Angiography BC is operating under the thesis that except for gated protocols, the majority of the Profile is similar for carotids and coronaries
- Section 3.2: Image Data Acquisition Discussion
 - Members asked to evaluate the tables and read the discussion text for review during the next CT Angiography BC t-con
 - Content to be reduced to only essential information

Next steps:

- Dr. Taylor Richards volunteered to review the CT Lung Density Profile as reference and update the image acquisition table accordingly; carotid and coronary details were expected to be similar
- Dr. Saba volunteered to update the Protocol Specifications Unique to Carotid Arteries table

Next call: Monday, September 24th at 11 am CT