IB’s Delta T1: A Quantitative and Automated Solution to Assess Brain Tumor Burden

Delta T1 on par with central reader analysis but offers substantial time and cost savings

For Immediate Release

July 2, 2019

Elm Grove, WI, USA – Imaging Biometrics™, LLC (IB), a subsidiary of IQ-Al Limited (LON:IQAI), is highlighting a recently published study in the American Journal of Neuroradiology titled: “Quantitative Delta T1 (dT1) as a Replacement for Adjudicated Central Reader Analysis of Contrast-Enhancing Tumor Burden: A Sub-Analysis of the RTOG 0625/ACRIN 6677 Multi-Center Brain Tumor Trial”. The study confirms the value of IB’s dT1 maps in streamlining routine radiology workflows and multi-center clinical trials.

Objective, accurate, and reproducible methods to measure brain tumor volumes are important in the assessment of treatment response. Contrast-enhanced MRI is the most common approach to monitor treatment, but it is highly variable and confounded by numerous factors including differences in vendor platforms, field strengths, and general MRI system instabilities. It is well-acknowledged that these factors contribute to the large disagreement of up to 50-60% between neuroradiologists when assessing tumor burden and evaluating treatment response.

Quantitative dT1 maps offer an elegant and automated solution that overcome these challenges and, therefore, have the potential to cause a disruptive shift in how brain tumor burden is assessed. dT1 maps compare calibrated pre- (T1) and post-contrast (T1+C) anatomic images. The calibration process, exclusive to IB, translates the relative and variable MR intensity values to a fixed and consistent scale. This built-in step is independent of scanner platform, field strength, and time point, and has been shown superior over manual tissue normalization algorithms.

The secondary analysis of multicenter clinical trial data was performed by lead author Kathleen Schmainda, PhD, from the Medical College of Wisconsin, and colleagues. In total, 123 patients from 23 institutions enrolled in the study. The study compared IB’s dT1 maps to two primary readers and one adjudicator to manually delineate enhancing lesions. The results proved the dT1 method to be comparable to expert reads for determining early tumor progression and proved superior for further distinguishing treatment responders from non-responders at the week 8 time point. Another key outcome of the study was that only the dT1 method could predict differences in outcomes at the week 8 time point.

“A key benefit of dT1 maps is they eliminate the labor-intensive and time-consuming manual approach of identifying contrast-enhancing lesion by busy neuroradiologists”, said David Smith, CEO of IB. “In addition, manual tissue normalization techniques are subjective.
and introduce variability. IB’s automated dT1 maps offer an objective and repeatable process that can simplify routine clinical workflows as well as multi-center clinical trials,” Smith added.

ABOUT Imaging Biometrics™, LLC
Imaging Biometrics, a subsidiary of IQ-AI Limited (LON:IQAI), develops and provides visualization and analytical solutions that enable clinicians to better diagnose and treat diseases with greater confidence. Through close collaboration with top researchers and clinicians, sophisticated advancements are translated into platform-independent software plug-ins which can extend the base functionality of workstations, imaging systems, PACS, or medical viewers. By design, IB’s advanced visualization software seamlessly integrates into routine workflows. For more information about Imaging Biometrics, visit the company’s website at www.imagingbiometrics.com.