招待講演

定量的イメージングバイオマーカー・アライアンス（QIBA）の目的と現状*1

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Objectives and current status of QIBA (Quantitative Imaging Biomarkers Alliance)

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Abstract

A quantitative imaging biomarker (QIB) is an objectively measured characteristic derived from an in vivo image as an indicator of normal biological processes, pathogenic processes or response to a therapeutic intervention. In 2007 the Radiological Society of North America (RSNA) organized the Quantitative Imaging Biomarkers Alliance (QIBA) whose mission is to improve the value and practicality of quantitative imaging biomarkers by reducing variability across devices, patients and time.

The QIBA initiative involves: (1) stakeholder collaboration to identify needs and solutions to develop consistent and reliable quantitative imaging results across imaging platforms, clinical sites, and time to achieve accurate and reproducible quantitative results from imaging methods. Since the process of acquiring a clinical imaging scan is complex, the goal requires much coordinated work among many stakeholders.

There are several sources of variability in quantitative results from clinical images: (1) image acquisition hardware, software and procedures; (2) measurement methods; and (3) reader variability. QIBA employs a consensus-driven approach to produce a QIBA Profile that includes one of more QIBA Claims and specifications for the image acquisition necessary to achieve the QIBA Claim. QIBA Profiles are based on published data whenever such data are available and on expert consensus opinion where no data exist.

Although based primarily in the USA, there are QIBA participants from North and South America, Europe and Asia. At the 2015 European Congress on Radiology, the European Society of Radiology (ESR) announced the formation of the European Imaging Biomarkers Alliance (EIBALL). In addition, leaders of the Japan Radiological Society (JRS) have met with the QIBA leaders to discuss future collaborations. Dr. Sullivan's lecture at the Fall Meeting of the JRS in October 2015 will provide more details about QIBA activities.

Key words

Quantitative Imaging Biomarkers Alliance (QIBA), Radiological Society of North America (RSNA), standardization, reproducibility, precision medicine

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