Abstracts

Coronary Angiography (CTCA) in Remote Indigenous and Non-Indigenous Australians

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Introduction: Global longitudinal strain (GLS) is a measure of myocardial function which can provide incremental information in certain clinical conditions. Previously, measurement of GLS was time-consuming and subject to variability. Recent revisions of algorithms for assessment of GLS based on the 2015 EACVI/ASE/Industry Task Force consensus recommendations for standardisation of deformation imaging are aimed at improving its application in the clinical setting. Our aim was to compare peak GLS measurements obtained using three different commercially available software systems in a busy clinical setting.

Methods: Twenty patients in sinus rhythm (45% female) were scanned systematically with head-to-head acquisition and no modification of patient’s position using equipment from two different vendors (Philips and GE). GLS was measured off-line using Philips QLAB 10.5 and GE EchoPAC BT13. Inter- and intra-observer variability and agreement between the measurements using the two software products were evaluated. Comparisons were also made with measurements made using vendor independent software (TomTec, Germany).

Results: Mean heart rate was 72 ± 14 bpm and mean LVEF 61 ± 10%. Inter-observer CVs for GLS were 4.50% (Philips) and 2.69% (GE); and intra-observer CV were 3.60% (Philips) and 3.98% (GE), indicating good reproducibility. The Pearson’s correlation coefficients (CC) between GLS values were high (A, C, E) indicating good agreement between the three algorithms with minimal bias (see Bland-Altman plots; B, D, F).

Conclusion: There was a high level of agreement and reproducibility for GLS measurements using Philips, GE and TomTec software, with all giving comparable GLS values, suggesting feasibility of routine GLS assessment in a busy clinical setting.

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