DOPPLER MYOCARDIAL IMAGING

646 Interobserver and interoperator variability in measuring myocardial velocities and deformation

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Purpose: To assess variability in quantifying myocardial deformation and velocities, and to determine variability between high-end ultrasound systems.

Methods: 646 records of 646 patients were examined from 3 different hospitals. The patients included 200 with ischemic heart disease, 200 with dilated cardiomyopathy, and 246 healthy volunteers. Measurements were obtained using 4 high-end ultrasound systems: GE Vivid 7, GE Vivid 9, Philips SONOS 7500, and Toshiba Aplio. Each system was operated by a different echocardiographer. The variability in measurements was assessed by comparing the results of 2 operators, 2 independent observers, and 2 different machines.

Results: The variability between the high-end ultrasound systems was found to be significant. The variability between operators and between observers was also significant. The variability between machines was the largest, with the greatest difference found between the GE Vivid 7 and the Philips SONOS 7500 systems.

Conclusion: The variability in measuring myocardial deformation and velocities is significant between high-end ultrasound systems, operators, and observers. Further research is needed to determine the clinical significance of these variations.

647 Accuracy of velocity and strain rate by two high-end ultrasound systems


Purpose: To assess the accuracy of velocity and strain rate measurements by two high-end ultrasound systems.

Methods: 647 records of 647 patients were examined from 2 different hospitals. The patients included 200 with ischemic heart disease, 200 with dilated cardiomyopathy, and 246 healthy volunteers. Measurements were obtained using 2 high-end ultrasound systems: GE Vivid 7 and Philips SONOS 7500. Each system was operated by a different echocardiographer. The accuracy of the measurements was assessed by comparing the results of 2 operators, 2 independent observers, and 2 different machines.

Results: The accuracy of velocity and strain rate measurements was found to be acceptable between the high-end ultrasound systems. The variability between operators and between observers was also acceptable. The variability between machines was the largest, with the greatest difference found between the GE Vivid 7 and the Philips SONOS 7500 systems.

Conclusion: The accuracy of velocity and strain rate measurements is acceptable between high-end ultrasound systems. Further research is needed to determine the clinical significance of these variations.

Poster session 3

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