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USE OF DOPPLER ECHOCARDIOGRAPHY IN THE NON-INVASIVE ASSESSMENT OF LEFT-VENTRICULAR DYSFUNCTION IN PATIENTS WITH DILATED CARDIOMYOPATHY

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ABSTRACTS CIRCULATION, VOL 64,
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USE OF DIGITAL ANGIOGRAPHY IN ASSESSMENT
OF VENTRICULAR EJECTION FRACTION AND
PACING INDUCED WALL MOTION ABNORMALITIES

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We evaluated the feasibility of using digital angiography to increase the number of left ventriculograms obtained at cardiac catheterization without increasing either the total amount of contrast material or radiation exposure used in standard cine ventriculograms. In 15 patients 10 ml of Renografin 76 was injected directly into the left ventricle. Images were obtained in the 30° RAO view with fluoroscopic energies, digitized by computer, subtracted from a stored mask and recorded on videotape. The 10 ml ventriculograms were compared with a standard 40 ml RAO 30° cineangiogram. End-diastolic and end-systolic volumes were determined by the area-length method and ejection fraction (EF) computed. The EF from the two techniques correlated closely ($r=.91$). Atrial pacing was performed in 6 pts with coronary artery disease or cardiomyopathy and a second 10 ml ventriculogram was recorded. Compared to rest, EF fell $11.3 \pm 5.1\%$. Wall motion abnormalities were observed in areas corresponding to coronary artery lesions in 5 of 6 pts. Thus, digital angiography can be used to obtain multiple left ventriculograms so that the functional significance of coronary disease can be assessed at the time of left heart catheterization.