

## Echocardiographic Characteristics Not Predictive of One-Year Mortality in Patients Starting Hemodialysis

Written by Maria Vinall

R. Rodriguez, MBBS, San Fernando General Hospital, San Fernando, Trinidad and Tobago, presented the results of a study that showed no strong correlation between transthoracic echocardiographic measurements at the commencement of hemodialysis and mortality at 1 year.

The study involved a retrospective chart review of all patients (n=40; mean age 52 years) who began hemodialysis between January 1, 2008 and December 1, 2009 at San Fernando General Hospital. The objective was to determine whether echocardiography provided any findings that were predictive of mortality. Mortality at 12 months and the presence of diabetes mellitus, hypertension, and other risk factors were documented. The following echocardiographic parameters were assessed: left ventricular diastolic and systolic diameter (LVIDd and LVIDs), left atrial diameter (LAD), interventricular septal diameter (IVSD), left ventricular posterior wall diameter (LVPWd), and ejection fraction (EF).

The 12-month mortality rate was 57.5%. Thirty (75%) patients had diabetes mellitus, 33 (82.5%) had hypertension, 30 patients (72%) had both diabetes mellitus and hypertension, and 9 (22.5%) had other risk factors. Most patients (80%) had 2 risk factors. Echocardiographic parameters are shown in Table 1.

**Table 1. Echocardiographic Parameters.**

	Mean + SD	Linear Regression r <sup>2</sup>	p value
EF, (%)	58 + 11	0.00	0.68
LVIDd, (mm)	5.4 + 0.84	1.03	0.28
LVIDs, (mm)	3.7 + 0.75	0.01	0.5
LVPWD, (mm)	1.04 + 0.2	0.00	0.74
IVSd, (mm)	1.11 + 0.19	0.01	0.52
LAD, (cm)	3.96 + 0.71	0.01	0.5

EF=ejection fraction; LVIDd=left ventricular diastolic diameter; LVIDs=left ventricular systolic diameter; LVPWD=left ventricular posterior wall diameter; IVSD=interventricular septal diameter; LAD=left atrial diameter.

Although no strong correlation was observed between echocardiographic parameters and mortality for the entire population, when data for patients who died within 12 months were analyzed separately, the correlations of 1-year mortality and LVIDd (r<sup>2</sup>=0.05) and LAD (r<sup>2</sup>=0.04)

were improved. There were no other important changes in the relationship with other echocardiographic parameters.

Although limited by its small size, this study suggests that hypertension is the most common comorbidity in patients with end-stage renal failure who commence hemodialysis at the San Fernando General Hospital. This modestly sized study was notable for a very high rate of mortality and a low proportion of patients with severe left ventricular function, an echocardiographic characteristic that has been clearly associated with outcomes in the existing literature. The authors note that other, potentially correctable factors may be responsible for the high 12-month mortality that was seen in this study and merit further investigation. While these preliminary findings require validation, they do raise the question of whether routine transthoracic echocardiography in patients who commence hemodialysis is useful in predicting subsequent mortality.

## Association Between Altered Lipid Profile and Uric Acid with Risk of MI in Patients in Trinidad and Tobago

Written by Rita Buckley

In 2004–2005, Trinidad and Tobago had the highest percentage of deaths from cardiovascular disease (CVD) and diabetes in the Caribbean [Chinnock P. *Caribbean Health* 2001]. Patients with diabetes or hypertension are at higher risk of CVD with worse outcomes than nondiabetic individuals [Falko JM et al. *Curr Diabetes Rev* 2005]. High uric acid levels are also a risk factor for insulin resistance syndrome [Bonora E et al. *Eur J Clin Invest* 1997].

Nalini Maharaj and colleagues from the University of the West Indies, Trinidad and Tobago, presented a poster on altered lipid profile and serum uric acid with the risk of myocardial infarction (MI) among diabetic and nondiabetic hypertensive patients. The primary objective was to improve understanding of the associations among altered lipid profile, serum uric acid, and the risk of MI.

The study included 672 adults who were treated for hypertension in public health clinics between 2005 and 2009. Health records were used to obtain each patient's history, lipid levels, blood pressure, and serum uric acid values.

The prevalence of MI was 25.45%, with males accounting for 52.6% and females accounting for 47.4%. The modal age group for MI was 61 to 70 years. MI rate was higher