

CORRELATION BETWEEN CORONARY ARTERIOSCLEROSIS AND TRANSMITRAL DOPPLER FLOW PATTERN

Chih-Hsin Hsu, Wei-Chuan Tsai, Wei-Ting Li, Yen-Wen Liu, Li-Jen Lin, Jyh-Hong Chen.

Department of Internal Medicine, National Cheng Kung University, Medical Center, Tainan, Taiwan.

BACKGROUND : Arteriosclerosis of coronary arteries is a common finding in patients undergoing coronary angiography. However, arteriosclerosis degree evaluation by non-invasive methods has not been fully elucidated. This study was undertaken to investigate the relationship between transmitral Doppler flow and arteriosclerosis of coronary arteries.

METHODS : We recruited 68 patients (mean age 63 ± 9 years, 41 males) undergoing selective coronary angiography in our hospital. Patients with valvular disease or acute myocardial infarction were excluded. Transmitral Doppler flow velocity was measured from the standard four-chamber view during each patient's inspiratory phase. Left ventricular end diastolic pressure was directly measured by pigtail catheter in the left ventricle. The extent of coronary arteriosclerosis was evaluated by a "diffuse score" developed by Negri, et al and modified by Birnie, et al.

RESULTS : Among all patients, the peak atrial velocity (A) was significantly correlated with diffuse score ($r = 0.312$, $p = 0.019$). HDL was significantly correlated with diffuse score ($r = -0.609$, $p = 0.021$). There was no significant correlation between diffuse score and diabetes, smoking or left ventricular end diastolic pressure.

CONCLUSION : Our data indicated that peak atrial velocity and HDL were correlated with arteriosclerosis of coronary arteries. When assessing the degree of coronary artery arteriosclerosis, not only dyslipidemia but also transmitral Doppler flow pattern should be taken into account.

Key Words: coronary arteriosclerosis, transmitral Doppler flow pattern, diffuse score