Correlation between Tei index and $E/E_a$ ratio in patients with first acute myocardial infarction

Sana Ouali [Orateur] (1), Rania Hammami (1), Sami Hammas (1), Helmi Ben Salem (1), Slim Kacem (1), Rim Gribaa (1), Elyess Neffeti (2), Fahmi Remedi (1), Essia Boughzela (2)
(1) Hôpital Sahloul, Cardiologie, Sousse, Tunisie – (2) Hôpital Sahloul, Sousse, Tunisie

Purpose: Tei index has been proposed as a non invasive and simple index that enables the evaluation of global left ventricular (LV) function. We hypothesized that left ventricular function, expressed by the Tei index, allow non invasive estimation of impaired hemodynamic during acute myocardial infarction (AMI).

Methods: We studied 72 patients with a first AMI. Measurements of Doppler echocardiographic parameters from mitral inflow were performed during the first 48 hours after admission. Mitral annulus Doppler tissue velocities were measured from septal and lateral wall. $E/E_a$ ratio was calculated. Tei index was obtained as: (a – b)/b, where (a) is the interval between the cessation and onset of mitral flow and (b) is the ejection time by aortic flow by pulsed Doppler echocardiography. Aortic Pre-ejection period (PEP) was measured and Aortic PEP/E (ejection time) ratio were also calculated. The left ventricular diastolic pressure was measured during the coronary angiography.

Results: Tei index had a negative correlation with the peak systolic myocardial velocities ($r=–0,36$, $p=0,002$). Tei index and Aortic PEP/E (ET) ratio showed also significant correlation both with $E/E_a$ ratio ($r=0,33$, $p=0,005$ and $r=0,28$, $p=0,01$ respectively).

Patients with high left ventricular diastolic pressure have a Tei index significantly higher than patients with normal left ventricular diastolic pressure ($0,52 ±0,21$ vs $0,41±0,23$, $p=0,05$).

Conclusions: Tei index allows not only the estimation of left ventricular systolic function but also show an approximate estimation of left ventricular diastolic pressure in patients with AMI.

Effect of age and gender on left atrial morphology and function

Rania Hammami [Orateur], Leila Abid, Karem Makni, Chiheb Hamza, Samir Kammoun
Cardiologie, Sfax, Tunisie

Aims: Changes of left atrial function are generally due to modifications in left ventricle compliance. But the hypothesis that degenerative changes of myocardial tissue could influence left atrial (LA) function is not excluded. This study was designed to assess the effects of normal ageing and sex on left atrial morphology and function.

Methods: Echocardiography was performed in 62 subjects with no evidence of cardiovascular disease. B-mode derived left atrial maximal and minimal surfaces and volumes, were measured. Ejections fractions based on Simpson method was calculated. Peak systolic wave on mid lateral wall of the left atrium was measured in all subjects.

Results: Higher age was positively correlated with increased LA volume, decreased systolic function ($Sa$: $r=0,29$; $p=0,02$). Active emptying duration assessed by the duration of Am or Ap progressively increased with age (Table 1). Paradoxically, Sex didn’t influence left atrial dimensions and function.

Conclusions: Ageing is associated with left atrial dilatation and systolic dysfunction even in lack of left ventricle diseases. But overall, left atrial function and morphology are not influenced by sex.

Diagnostic value of Doppler transthoracic echocardiography in the estimation of left ventricular filling pressure in patients with severe symptomatic systolic heart failure

Barnabas Gellen [Orateur] (1), Pierre-François Lesault (1), Florence Canoui-Poitrine (2), Pascal Lim (3), Pascal Guéret (3), Emmanuel Teiger (1), Jean-Luc Dubois-Randé (3), Luc Hittringer (3), Thibaud Damy (3)
(1) AP-HP, CHU Henri Mondor, Physiologie – Explorations Fonctionnelles, Créteil, France – (2) AP-HP, CHU Henri Mondor, Santé Publique, Créteil, France – (3) AP-HP, CHU Henri Mondor, Fédération de Cardiologie, Créteil, France

Background: E/Ea is unreliable to estimate pulmonary capillary wedge pressure (PCWP) in decompensated severe systolic HF. Our objective was to test the reliability of E/Ea to predict elevated PCWP in patients with stable severe systolic HF.

Methods and results: We included 130 patients with LVEF <35% and stable HF. They underwent right heart catherization and TTE with transmi-