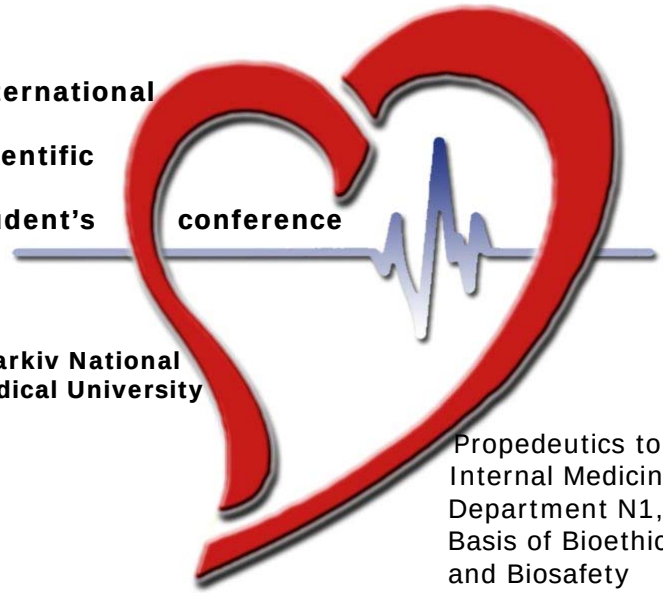
ABSTRACT BOOK

EVOLUTION OF EXAMINATION METHODS IN CARDIOLOGY. RECENT ADVANCES IN CARDIAC IMAGING

International

Scientific

student's conference



Kharkiv National Medical University

Propedeutics to Internal Medicine Department N1, Basis of Bioethics and Biosafety

Kharkiv, Ukraine
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- To detect white coat hypertension.
- It has use in hypertension research, eg reviewing 24-hour profile of antihypertensive medication.
- It may have prognostic use - higher readings on ABPM are associated with increased mortality.
- Response to treatment.
- Masked hypertension.
- Episodic dysfunction.
- Autonomic dysfunction.
- Hypotensive symptoms whilst on antihypertensive medications.

Downside to ambulatory blood pressure monitoring

- ✓ It is not widely available although this is improving.
- ✓ It requires specialist training.
- ✓ Some patients find inflation of the cuff unbearable.
- ✓ Sleep disturbance.
- ✓ Bruising where the cuff is located.
- ✓ Background noise may lead to interference (less with oscillometric methods).
- ✓ Poor technique and ***arrhythmias*** may cause poor readings.

SYSTOLIC AND DIASTOLIC HEART FAILURE

Jalal Laklaai, Oleksii Honchar

Definition. The Working Group for the European Society of Cardiology proposed that "[a] diagnosis of primary diastolic heart failure requires three obligatory conditions to be simultaneously satisfied: 1) presence of signs or symptoms of congestive heart failure (CHF); 2) presence of normal or only mildly abnormal left ventricular (LV) systolic function; 3) evidence of abnormal LV relaxation, filling, diastolic distensibility, or diastolic stiffness."

Discussion. The aforementioned diagnostic criteria have been criticized for 3 reasons. The first obligatory condition requires the presence of signs "or" symptoms of CHF; however, it is well recognized that the mere presence of breathlessness and fatigue is not specific for the presence of CHF. The second criticism revolves around the term "systolic function." The working group defined systolic function as being normal when LV EF is ≥45%. The third difficulty is the requirement that a measurable abnormality in diastolic function be present. Similar to measurements of systolic function, measurements of ventricular relaxation, filling, and compliance are load dependent.

Vasan and Levy proposed an expansion and refinement of these diagnostic criteria by suggesting that they be divided into definite, probable,

and possible diastolic heart failure. Definite diastolic heart failure requires definitive evidence of CHF; If objective evidence of diastolic dysfunction is lacking but the first 2 criteria are present, this fulfills the criteria for probable diastolic heart failure. If the first criterion is present and EF is >50% but not assessed within 72 hours of the CHF event, this fulfills the criteria for possible diastolic heart failure. Possible diastolic heart failure can be upgraded to probable diastolic heart failure if one of a number of additional criteria is present.

Zile et al. concluded that the diagnosis of diastolic heart failure can be made without measurement of diastolic function if 2 criteria are present: (1) symptoms and signs of heart failure (Framingham criteria) and (2) LV EF >50%.

Clinical implementations. Diastolic heart failure can occur alone or in combination with systolic heart failure. In patients with isolated diastolic heart failure, the only abnormality in the pressure-volume relationship occurs during diastole, when there are increased diastolic pressures with normal diastolic volumes. When diastolic pressure is markedly elevated, patients are symptomatic at rest or with minimal exertion (NYHA class III to IV). With treatment, diastolic volume and pressure can be reduced, and the patient becomes less symptomatic (NYHA class II), but the diastolic pressure-volume relationship remains abnormal. In patients with systolic heart failure, there are abnormalities in the pressure-volume relationship during systole that include decreased EF and, stroke volume.

Conclusions: There is growing recognition that congestive heart failure (CHF) caused by a predominant abnormality in diastolic function (ie, diastolic heart failure) is both common and causes significant morbidity and mortality. However, there is continued controversy surrounding the definition of diastolic dysfunction and the diagnostic criteria for diastolic heart failure.

THE USING OF ECHOCARDIOGRAPHY FOR ASSESSMENT SYSTOLIC AND DIASTOLIC FUNCTION OF THE LEFT VENTRICLE

Jeena Justin, N. Pytetska

Echocardiogram, often referred to cardiac echo or simply an echo is a sonogram of the heart. (It is not abbreviated as ECG, which in medicine usually refers to an electrocardiogram.) Echocardiography uses standard two-dimensional, three-dimensional, and Doppler ultrasound to create images of the heart.