methods. To identify the influence of regional wall-motion impairment for each individual LV segment, the mean WMS was calculated for each segment and compared between the 2 groups.

Results: The echocardiographic parameters that were associated with IMR were: LV dilatation and sphericity (p<0.0001), reduced ejection fraction (p<0.0001), inferior (p<0.001) inferolateral (p=0.01) and anterolateral (p=0.02) asynergy.

Conclusion: The results of this study indicate the importance of abnormalities of both LV geometry and regional wall motion in the pathogenesis of IMR after myocardial infarction. Clinically, these findings imply that myocardial salvage by early coronary revascularisation may improve outcome by preserving LV function and decreasing the incidence of IMR.

167
Screening of coronary artery disease in patients with COPD: feasibility and safety of SPECT

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Background: Chronic obstructive pulmonary disease (COPD) is an independent cardiovascular risk factor, even after adjustment for smoking habits, and cardiovascular diseases are the main cause of mortality in patients with COPD. Current guidelines suggest a systematic screening of coronary artery disease (CAD) in high cardiovascular risk patients. Dyspnea and poor acoustic window limit the efficiency of the stress testing and stress echocardiography in patients with COPD. The use of SPECT seems to be the best tool for the systematic screening of CAD in patients with COPD, but there is no study that explores the feasibility of SPECT in patients with COPD.

Objective: The aim of our study was to determine the feasibility and the safety of SPECT for the systematic screening of CAD in patients with COPD.

Methods: Between June 2010 and June 2011, 42 patients with COPD confirmed by spirometry and without history of CAD underwent systematic screening of CAD. CAD was screened by stress testing if feasible or SPECT if stress testing was not feasible. When stress testing reveals myocardial ischemia or when it was not contributively, screening was complete by SPECT. Stress protocol for SPECT was chosen by the nuclear imager.

Results: Six (14.3%) patients underwent stress testing only, 25 (59.5%) patients underwent SPECT only and 12 (28.6%) patients underwent both. Between the 31 SPECT (73.8% of the total population), dipyridamol and dobutamine were used for 25 (80.6%) and 2 (6.4%) patients respectively; and mean rest left ventricular ejection fraction (LVEF) was 62±24% with 2 (6.4%) and 3 (9.7%) patients with LVEF<50% at rest and after stress respectively. Myocardial ischemia and myocardial infarction were found in 3 (7.1%) and 4 (9.5%) different patients respectively. In the total population, CAD prevalence defined by myocardial ischemia and/or myocardial infarction was 19%. There was no complication of SPECT even when stress protocol used dipyramidal.

Conclusion: SPECT with or without dipyramidal is feasible and safe for the systematic screening of CAD in patients with COPD. CAD detected by SPECT is frequent in patients with CAD.

168
Is two-dimensional speckle tracking ready for current practice?

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Measurement of left ventricle ejection fraction (EF) is a current skill in echocardiography using the Simpson biplane method. It sometimes remains hard to have an objective evaluation of the EF especially in patients with suboptimal image quality. For that automated quantification of EF using speckle tracking to calculate systolic strain (SS) might be a seducing method.

Aim of the study: To show the reproducibility of speckle tracking and its correlation with both EF measured by Simpson and S wave (S DTI), depending on patient’s echogenicity and the number of green cross obtained with tracking.

Method: A complete echocardiography was performed on 158 patients; speckle tracking was performed by a confirmed echocardiologist and a beginner.

Results: The mean age was 65 years, 58.7% were men. Echogenicity was considered good for 64% of the patients. Systolic strain variability was 9%. Correlation between EF and SS was 0.64 for all patients, 0.69 for patients with only green cross, 0.81 for patients with good image quality, and 0.82 for patients with good image quality and green cross (p<0.05 in all cases).

Correlation between S DTI and SS was 0.5 for all patients, 0.51 for patients with only green cross, 0.58 for patients with good image quality, and 0.7 for patients with good image quality and green cross (p<0.05 in all cases).

We also studied the correlation between EF and the sum of SS and S DTI with r=0.67 for all patients, 0.81 for patients with good image quality, and 0.82 for patients with good image quality and green cross (p<0.05 in all cases).

Conclusion: The variability of SS was low showing a good reproducibility of the method even with beginners.

The correlation was stronger between EF and the sum of SS and S DTI, and it gets stronger for patients with good image quality or with an exclusive green cross tracking.

169
Usefulness of Doppler echocardiography in the diagnosis of diastolic heart failure in the elderly

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Introduction: Echocardiography is a key consideration in the management of diastolic heart failure, the measurement of ejection fraction of left ventricle is therefore fundamental.

Objective: In this work we propose to outline the epidemiological, clinical and echocardiographic findings in patients with diastolic heart failure.

Materials and methods: Our retrospective study included 44 patients with clinical and echocardiographic evidence of diastolic heart failure with ejection fraction ≥45%, who were hospitalized during the period from November 2006 to March 2010 at the therapeutic unit of heart failure in department of Cardiology – CHU Ibn Rochd Casablanca Morocco.

Results: Of a total of 1200 patients hospitalized with heart failure in unit of heart failure. 3.6% had diastolic heart failure with a male predominance (61%), average age of 75±8 years.

The dyspnea was constant (95.2%), patients had heart failure NYHA class I (6%), NYHA class II (37.9%), NYHA class III (44%) and NYHA class IV (7%).

Doppler echocardiography was performed in all patients, ejection fraction was measured by the method of Simpson biplane and was ≥45% in 44 patients who all had elevated filling pressures of left ventricle.

Filling pressures of left ventricle were assessed by the study of mitral flow by pulsed-wave doppler, with restrictive filling in 68.1% of patients with E / A ratio ≥2.5 to ≥3.5, deceleration time ≤150 ms and time isovolumic relaxation ≤200 ms, the mitral flow was normal with E / A ratio = 1 to 2 in 31.8% of cases.

In mitral inflow and annulus tissue doppler: the E / Ea ratio was ≥15 in 88.6% of cases and E / Ea ratio ≥9 and ≤14 in 11.3% of patients and in this case we have had recourse to the analysis of pulmonary venous flow with an A pulmonary wave – A mitral wave duration ≥30 ms, the measurement of left atrium volume was ≥34 ml/m², and the measurement of pulmonary artery systolic pressure was ≥35 mmHg.

Conclusion: Doppler echocardiography in diastolic heart failure measure filling pressures of the left ventricle and also beneficial to the etiologic, prognostic and follow up.