P656 | BEDSIDE

Ability of non-dependent elderly patients hospitalized for heart failure to perform the tasks required for self-care

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Purpose: Patients with heart failure (HF) are told to take care of their disease through a number of specific tasks. We aimed to assess the ability to perform the essential tasks needed for a correct self-care in patients with HF.

Methods: Prospective study of patients ≥ 70 years old consecutively hospitalized for HF in the Services of Cardiology, Geriatrics and Internal Medicine. Exclusion criteria were dementia, dependence in ≥ 2 over 6 activities of daily living or nursing in a nursing home. The ability to perform 6 specific tasks used in HF self-care (use of a scale, register own weight, identification of diuretic pills, knowledge about usual salted foods, leg edema identification, and treatment adjustment according to weight change) was tested. Demographic and HF characteristics, social support, health literacy (RealM-r) and European self-care in HF scale were also recorded. On average, patients could perform 2.9±1.6 of the essential self-care tasks alone, and only 5% could perform the 6 tasks correctly. The rates of correct achieve- ment of the evaluated tasks were: correct use of the scale (63%), identification of diuretic pills (56.9%), registration of own weight (42.4%), identification of usual salted foods (41.6%), identification of leg edema (29.6%), and adjustment of treat- ment according to weight change (20.7%). Poor self-control was associated with the presence of physical and cognitive impairments and lower health literacy lev- els. A previous specific HF-management education was reported by 22.2% of patients, and family or social help for disease control in 38%. However, 51.6% of patients deemed external help unnecessary for HF control.

Conclusions: Most non-dependent elderly patients hospitalized for HF are unable to perform the needed tasks for a correct self-care. The current way of teaching self-care to HF patients may not be useful for the elderly.

P657 | BEDSIDE

Prevalence of frailty in elderly non-dependent patients hospitalized for heart failure, and characteristics of frail patients

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Purpose: Frailty is a situation of increased vulnerability to stressors associated with higher mortality risk and quick progression to dependency, which may be reversible. Until recently, frailty diagnosis was not based on objective measures and still is not assessed routinely in cardiac patients. We aimed to describe the prevalence of frailty among elderly patients hospitalized for heart failure (HF), and the specific characteristics of frail patients.

Methods: Prospective study of a cohort of 450 patients aged ≥ 70 consecutively hospitalized for HF in the Services of Cardiology, Geriatrics and Internal Medicine. Exclusion criteria were dementia, living in a nursing home, or dependency in ≥ 2 over 6 activities of daily living. Frailty was defined according to Fried criteria (at least three of the five criteria: exhaustion, unintentional weight loss during the last year, low activity, slow walk and poor grip strength) and measured before dis- charge. HF characteristics, comorbidity (Charlson index), cognitive function and coexistent acute diseases were also measured.

Results: The prevalence of frailty was 70%, higher in women than in men. Compared with the non-frail, frail patients were older (71.6±6 vs 78±6 years, p < 0.001), had a higher prevalence of hypotension and lower of ischemic HF (32% and 31% vs 19.1% and 48.3%, respectively, p < 0.01), were more symptomatic (30% vs 13.2% NYHA class III-IV, p < 0.001), and had coexistent acute diseases during admission more frequently (67.4% vs 56.1%, p = 0.04). Frailty was also associ- ated with in-patient cognitive status (clock drawing test: 4.8±3 vs 6.4±3, p < 0.001) and depressive symptoms (GDS: 6.6±3 vs 4.2±2, p < 0.001). On the contrary, there were no differences between groups in LVEF, NT-proBNP levels, and comorbidity index.

Conclusion: The prevalence of frailty is very high among older patients hospi- talized for HF. It is not associated with more severe cardiac disease or greater chronic comorbidity but reflects subtle disabilities and is associated with coexis- tent acute diseases. The role of frailty in prognosis, and the value of its assess- ment in HF patients warrant prospective evaluation.

P658 | BEDSIDE

The relationship of tissue Doppler Tei index with invasive hemodynamic parameters in patients with heart failure

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Purpose: The myocardial performance index (Tei index) reflects both systolic and diastolic function of the heart and it’s easily applied in the practice. In this study; we aimed to determine the relationship between Tei index and invasive hemody- namic parameters in heart failure patients.

Methods: 126 patients (pts) with heart failure were selected for the study. Di- agnostic cardiac catheterizations were performed in all patients. The pts were divided into 2 groups. Group I consisted of 59 pts (32 men, mean age 61±10, Functional capacity NYHA Class I and LVEDP≤16 mmHg). Group II were con- taining 67 pts (34 men, mean age 60±9, NYHA Class II-III; LVEDP≤16 mmHg). The following parameters were measured in all pts: Ejection fraction, the peak mitral early (E) and late (A) diastolic velocities, E/A ratio, Deceleration time (DT) and also tissue Doppler parameters were measured from 4 different areas of the mi- tral annulus (septum, lateral, inferior, anterior).

In order to measure Tei index with 2 methods (Standard Doppler and tissue Doppler method); isovolumic contraction time (IVCT), isovolumic relaxation time (IVRT) and ejection time (ET) were measured from 4 areas and mean values of Tei index was calculated.

Results: E/A ratios, DT and IVRT were not found different between two groups (p > 0.05). Group II pts had longer IVCT and ET (p < 0.05). Tei index measured by both standard pulsed wave Doppler and tissue Doppler method were significan- tly higher in group II pts (Group I:0.50±0.2 and 0.50±0.14; Group II:0.98±0.3, 1.2±0.3, p < 0.001).

According to ROC (Receiver Operating Characteristics) curve analysis the cut off value for Tei index measured by tissue Doppler was found 0.74. The sensitiv- ity and specificity of this value were measured 92.5% and 91.5% respectively. Tei index measured by standard Doppler method was 0.67. Its sensitivity and specificity were 77% and 72%. We found a strong relationship between Tei index especially measured by tissue doppler and left ventricular end diastolic pressure (r=0.83, p < 0.01). Additionally, it was found a significant relation- ship between Tei index values measured by tissue Doppler and those measured by standard traditional method (r= 0.85, p < 0.01).

Conclusions: In this study we showed that Tei index measured with both pulsed wave Doppler and tissue Doppler was reliable for the evaluation of the global car- diac functions in pts with heart failure. It can be said that myocardial performance index measured with the tissue Doppler method is better than traditionally mea- sured Tei index to differentiate the pts with the symptomatic heart failure from the asymptomatic cases.

P659 | BEDSIDE

Right ventricular systolic echocardiographic parameters in chronic systolic heart failure and prognosis

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Background: Right ventricular (RV) dysfunction is associated with poor prognos- is in patients with heart failure (HF). Several RV echocardiographic parameters have been proposed as sensitive markers to detect patients at risk.

Objective: The aim is to compare the predictive value of several RV echocardiographic parameters for adverse outcome in patients with chronic systolic HF.

Methods: 117 patients with chronic systolic HF and left ventricular ejection frac- tion (LVEF) ≤40% were assessed for the following: (i) RV fractional area change (RVFAC), (ii) tricuspid annular plane systolic excursion (TAPSE), (iii) integral of velocity time integral (IVTI) of the tricuspid annulus. The primary endpoint was death, urgent transplantation, or acute HF episode requiring hospital admission. The follow-up extended for one year.

Results: 52 patients reached the primary endpoint. The cut-off thresholds for RVFAC, TAPSE, PSVTd and ISVTd defined using receiver-operating characteristic curves were 30%, 15.5 mm, 10.0 cm s–1, and 2.4 cm, respectively. The area