survival: hazard ratio for high ED 0.64, 95% CI 0.40-1.01, P=0.055. Among pa-

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Trimetazidine may be a new additional therapy to improve symptoms and cardiac function for patients after proceeding with surgical valve replacement

Background: After successful surgery for valvular heart disease, symptoms and cardiac function are in general greatly improved. Nevertheless, left ventricle dysfunction and heart failure symptoms may persist and worsen postoperatively. We hypothesized that the metabolically acting agent trimetazidine would help improve symptoms and cardiac function after valve replacement.

Methods: In a randomized, open-label, case-control 1-year study, trimetazidine (35 mg twice daily) was added to optimal standard therapy (vitamin K antagonists, ACEi/ARBs, beta-blockers, diuretics, statins, and digoxin) 2-4 weeks after conventional aortic/mitral valve replacement. Efficacy endpoints included changes from preoperative baseline in 6-min walk distance (6-MWD), New York Heart Association (NYHA) functional class, hemodynamic parameters, heart failure hospitalizations, and all-cause mortality.

Results: 120 patients (mean (SE) age 53.2 (2.1) years, 72 males (60%), 48 females (40%) with mechanical prosthesis of aortic (n=64) and mitral (n=56) valve [48 due to degenerative (40%), 42 rheumatic (35%), 12 myxomatous (10%), 10 congenital valve diseases (8.3%) and 8 infectious endocarditis (6.7%); 65% NYHA class III, 35% NYHA class II; 20% concomitant CABG; median (IQR) 6-MWD 329 (162-420) m; mean (SE) left ventricular ejection fraction (LVEF) 59.6 (2.8%) were randomized. There were no significant differences between trimetazidine and control group at baseline. At month 12, patients receiving trimetazidine (n=60) had a mean increase in 6-MWD of 156 m (p=0.0001); control patients (n=60) had a mean 6-MWD increase of 121 m (p=0.0005), with a control-adjusted difference of +35 m (p=0.041). NYHA status improved by two classes in 40% of trimetazidine versus 21.7% of controls (p=0.035), by one class in 60% versus 78.3% (p=0.035). Trimetazidine delayed the time to clinical worsening (p=0.002) and reduced the heart failure admissions (p=0.0045). Improvements were noted in control-adjusted changes in postoperative heart remodeling, e.g. in mean LVEF (+3.4%; p=0.003), left ventricular end-diastolic diameter (-5.6 mm; p=0.001), and end-systolic diameter (-3.7 mm; p=0.004). Combination therapy with trimetazidine was well tolerated. No patient died in the trimetazidine group, as compared with one patient in the control group (p=0.89).

Conclusions: Long-term trimetazidine therapy for patients with mechanical aortic/mitral valve prostheses improves symptom status and cardiac function. This study demonstrates the hypothesis of clinical benefits from continued metabolic trimetazidine in surgically corrected valvular heart disease.
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High-sensitivity assay of plasma cardiac troponin T predicts the effects of pitavastatin in patients with chronic heart failure: a sub-group analysis from the pitavastatin heart failure study (PEARL)
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Purpose: Results from some observational studies and subgroup analysis of recent randomized controlled trials suggested the existence of a subgroup of patients with heart failure that benefit from statins. The present study was a sub-study of the pitavastatin heart failure study (PEARL) designed to explore the usefulness of biomarkers for detecting the patients who benefit from statins prospectively. High sensitivity cardiac troponin T (hs-cTnT) is considered to detect a chronic low-grade leak of cardiac troponin, which was known as an on-going myocardial damage, and statins have the potential to be effective in this condition.

Methods: Of 574 PEARL study participants with heart failure (NYHA class II-III, LVEF <45%) who were randomly allocated to a pitavastatin (2mg/day adjunct to optimal medical therapy) or control (optimal medical therapy only) group, 242 patients agreed to participate in this study for biomarkers. The plasma hs-cTnT and other several biomarkers were measured at baseline and three months after randomization. Results: There were no significant differences in baseline characteristics in both groups. Twenty percent of patients were classified within the hs-cTnT ≤12.4ng/L category, 12 control (32.4%) and 5 pitavastatin-treated (11.1%) patients had a primary outcome (HR 0.27; 95% CI 0.09-0.77, P=0.009). By contrast, in the hs-cTnT>12.4ng/L category, 5 control (9.6%) and 2 pitavastatin-treated (4.7%) patients experienced these outcomes (HR 4.35; 95% CI 0.08-22.4, P=0.31).

Conclusions: It was suggested that a higher plasma hs-cTnT level might be associated with the effectiveness of pitavastatin treatment in heart failure patients with LVEF<30%.

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Immunosuppressive and antiviral therapy of virus-positive and virus-negative inflammatory cardiomyopathy: short-term results and outcomes
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Purpose: To study short-term study results and outcomes of antiviral and Immunosuppressive Therapy (IST) in virus-positive and virus-negative patients with inflamm- atory cardiomyopathy.

Methods: In 103 patients (69 men, 47.3±12.2 years) with dilated cardiomyopa- thy (mean left ventricle diastolic diameter 6.6±0.9 cm, LVEF 29.0±11.2%) my-ocarditis was verified by complex study, including heart biopsy or autopsy in 36; anti-heart antibodies were also measured as well as virus detection (PCR), EchoCG, myocardial scintigraphy (n=9), CT (n=74), MRI (n=15), coronary angiog- raphy (n=44) were performed. Results: The viral genome was detected in 46 patients (44.7%): 29 in the blood (predominantly Epstein-Barr virus) and 25 in myocardium (predominantly parvo- virus B19). Antinuclear anti-heart antibodies (detected in 45.4%) correlated with presence of virus in myocardium (n=3, 95% CI 0.05-0.09). Viral myocarditis was diagnosed in 4.9% patients, immune - in 55.3%, mixed - in 39.8%. Antiviral ther- apy (acyclovir, ganciclovir, IV immunoglobulin) allowed to achieve virus elimina- tion from the blood in 79.3% of patients. IST was administered to 101 patients (including 20 virus-positive): hydroxychloroquine (n=33, 200 mg/day), steroids (n=50, 36.1±15.5 mg/day), azathioprine (n=46, 108.3±34.2 mg/day). At base- line, 57% IST and non-IST patients were differed by NYHA class (3 [2, 3] and 3 [3, 4], P<0.05) and LVEF (30.7±10.9 and 25.3±9.6, P<0.05). Significant decrease (p<0.05) of left ventricle diastolic diameter (6.7±0.9 to 6.4±1.1), diastolic (26.2±3.5 to 17.6±5.3) and systolic volume (143.6±74.2 to 114.1±71.8), systolic pulmonary artery pressure (47.0±16.3 to 34.4±12.4), increase of LVEF (30.7±10.9 to 39.5±11.3), and significantly lower mortality (13.8% and 31.6%, p<0.05, RR of all-cause mortality 0.63, 95% CI 0.37-1.05) were found only in IST group. Significant changes of left ventricle size and LVEF due to IST were achieved both in virus-negative and virus-positive patients. Mortality in virus- positive patients was 25% in IST and 40% in non-IST groups (in general 30%), in virus-negative patients - 6% and 13%, respectively (in general 8%). In the absence of baseline differences, virus-positive patients had significantly higher mor- tality (p<0.01, RR of all-cause mortality 1.95, 95% CI 1.36-2.78) and the need for surgical treatment (61.4% and 31.3%, p<0.01).

Conclusions: IST in patients with inflammatory cardiomyopathy is effective both with positive and negative viral genome in blood/myocardium; the presence of virus reduced effectiveness of combined therapy and was unfavorable prognostic factor.

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Target hemoglobin can be achieved with intravenous iron alone in cardio-renal patients
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Background: Anemia is common among heart failure (HF) and chronic kidney disease (CKD) patients, and is associated with increased morbidity and mortality. Beneficial effects of combined intravenous (IV) iron and Erythropoietin Stimulating Agent (ESA) administration are well established. Nevertheless, there is a rising concern about ESA treatment as increasing the risk of hypertension and stroke. We aimed to explore whether IV iron alone is sufficient to improve anemia and to define predictors for treatment response.

Methods: We retrospectively analyzed data of patient treated at our HF/CKD clinic between January 2010 to December 2011. All patients received IV iron sucrose (200 mg/week) for 6 weeks. A subset was additionally given subcutaneous Epoetin beta (104 units/week) during the indicated time. The end point was the improvement from baseline in the hemoglobin (Hb) and ferritin levels at week 7. Results: A total of 81 patients were investigated. 47 were given IV iron and ESA (Group A) and 34 patient received IV iron alone (Group B). The baseline character- istic of the patients were similar in both groups, with a mean age 69.5±10 years, mean ejection fraction 37±15.2%, mean estimated glomerular filtration rate 26±12.6 ml/min/1.73m². Hb levels significantly increased in both patients (10.9±0.9 to 12.4±1.3 g/dl; p<0.004 and 10.6±1.1 to 11.9±1.1 g/dl; p<0.001, re- spectively), more pronouncedly in group A (2.17±1.36 g/dl, p<0.008). The net ferritin augmentation was greater in group B (308.5±161.6 mg/L, p<0.002). Platelet count decreased significantly in group B (225.69±199.51 to 108.7±71, p<0.02) while unchanged in A (219.63±216.55 to 107.5, p=0.54). Independent predictors of a favorable outcome to treatment were low baseline hemoglobin and MCV levels.

Conclusion: IV iron treatment without ESA can substantially raise the hemoglobin level to >11 g/dl - the desired level according to guidelines. This treatment strategy may reduce the use of ESA and hence its adverse effects.