General

OP-142

Recurrent Electroconvulsive Therapy and Adaptational Response of the Heart

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Aim: Data about cardiac response to recurrent electroconvulsive therapy (ECT) in healthy heart are lacking. We investigated the effects of recurrent (seven times) ECT on cardiac function to reveal the presence or absence of adaptive changes in patients free of cardiovascular disease.
Method: We enrolled twenty-three patients who underwent to ECT with different psychiatric disorders. Echocardiographic examination including diastolic mitral inflow and tissue Doppler features was recorded before and after total seven times ECT in all patient.
Result: Male/Female ratio was 11/12. Mean age was 37 (19-71). There was not a significant difference in mitral E wave velocities and tissue Doppler E' velocities after the first ECT compared to baseline values. (p=0.161, p=0.083). The results were similar after the latest ECT session. (p=0.463, p=0.310). However there was a significant increase in transmitral A wave velocity after the first and the seventh ECT session compared to baseline values (p=0.008, p=0.017).
Conclusion: Our study revealed that mitral diastolic inflow A wave velocity was increased 20 minutes after the ECT and this increase persisted after recurrent ECT sessions in apparently healthy hearts. This finding is considered possibly as the indicator of acutely increased sympathetic tone.

OP-143

Impact of Chronic Obstructive Pulmonary Disease on Severity of Coronary Artery Lesions on the Angiogram

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Backgrounds: Chronic obstructive pulmonary disease (COPD) has many comorbidities such as coronary artery disease (CAD) and lung cancer.
Objectives: We analysed that impact of COPD on intensity and severity of coronary lesions on the angiogram in the groups of patients with COPD according to the Global Initiative for Obstructive Lung Disease (GOLD) grades updated in 2011.
Methods: The study included 102 patients with diagnosed COPD and 80 randomly selected subjects without any pulmonary disease who underwent coronary angiography. According to the GOLD grade for COPD, patients were divided into 4 groups: A, B, C and D. The severity and extent of CAD were determined using Gensini score.
Results: There were no significantly differences in age, body mass index, smoking, plasma lipid levels, frequency of hypertension and diabetes. The mean Gensini score in COPD (25.7±32.9) was significantly higher than controls (17.5±24.8, p=0.01). While Gensini score was the highest level in group D (64.9±34.9), it was the lowest level in group A (10.2±19.4, p=0.0001). COPD was independently predictive for Gensini score after a multivariate logistic regression analysis (odds ratio 1.625; 95% confidence interval 2.172–12.232; p=0.001).
Conclusions: Severity and intensity of coronary atherosclerosis increases in accordance with increases in the GOLD grades.

Cardiac Imaging

OP-144

Serum Sclerostin Levels are Associated with Aortic Valve Calcification in Maintenance Hemodialysis Patients

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Sclerostin is a protein expressed by osteocytes and has been shown to be a good predictor for bone formation in patients with chronic kidney disease. Sclerostin was only recently identified in the subendothelial layer of the human aortic intima, suggesting a possible role in the pathogenesis of aortic valve calcification. The aim of this study was to evaluate the relationship between serum sclerostin levels and aortic valve calcification in maintenance hemodialysis patients.
Materials-Methodology: 101 patients (48 females and 53 males, mean age: 59±12 years, mean hemodialysis vintage: 56±28 months) were included in a cross-sectional study. Serum sclerostin levels were measured by ELISA (R&D Systems, Minneapolis, MN). All patients underwent unenhanced, electrocardiography-triggered dual-source computed tomography of the heart.
Results: Patients with aortic valve calcification had significantly higher serum sclerostin levels as compared to patients with no calcified aortic valves (2813±1171 vs 1362±1190 pg/mL, p<0.001). The patients are grouped according to tertiles of serum sclerostin levels as follows: (1st tertile: serum sclerostin levels ≤370 pg/ml; 2nd tertile: 370<serum sclerostin levels<2282 pg/ml; 3rd tertile: serum sclerostin levels ≥2282 pg/ml. The frequencies of aortic valve calcification were 36% (5 in 14 cases), 58% (30 in 52 cases) and 94% (33 in 35 cases), respectively (p<0.0001 for the trend). In the multivariable regression analysis, age (B=0.46, p=0.015) and serum sclerostin levels (B=0.35, p=0.044) were independent factors for aortic valve calcification.
Conclusion: Further studies are needed to identify sclerostin as a pathogenetic factor or a suitable biomarker or a therapeutic target for AVC in maintenance hemodialysis population.

General

OP-145

Serum Sclerostin Levels are Associated with Both Arteriovenous Fistula Calcification and Arteriovenous Fistula Survival in Maintenance Hemodialysis Patients

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Introduction: Arteriovenous fistula (AVF), an important option for hemodialysis vascular access, is prone to recurrent stenosis and thrombosis. Sclerostin, a novel protein secreted by the osteocytes, has been recently shown to be associated with renal osteodystrophy. The objective of this prospective study was to determine if there was an association between serum sclerostin levels, AVF calcification and one-year AVF survival.
Material and Methods: The study involved 350 hemodialysis patients followed for 12 months. AVF calcification was evaluated as previously described. AVF surveillance was conducted by clinical and ultrasonographic evaluation. AVF dysfunction is diagnosed on angiographic basis.
Results: Serum sclerostin levels in hemodialysis patients were higher when compared to healthy controls (1519±1378 vs 128±49 pg/ml, p<0.0001). Patients with calcified AVFs had higher serum sclerostin levels than patients with not (1841±1516 vs 1261±1173 pg/ml; p=0,002). Serum sclerostin levels was correlated with AVF calcium score (r=0,489, p<0.0001; Figure 1). One-year AVF survival was reduced in patients with calcified AVFs (Figure 2; HR for AVF thrombosis: 1.88; 95% CI, 1.35-2.42; p=0.002). Patients with 25-hydroxy D3 levels greater than median value (21,6 microgr/L; Group 1) were associated with an increase in AVF survival, compared to patients with 25-hydroxy D3 levels greater than median value and receiving calcitriol (Group 2), patients with 25-hydroxy D3 levels lower than median value and receiving calcitriol (Group 3) and finally patients with 25-hydroxy D3 levels lower than median value and not receiving calcitriol (Group 4) (Log-rank: p<0.001). One-year AVF survival was lower with increasing serum sclerostin quartiles (Log-rank, p=0.01). Multivariable-adjusted regression analyses revealed that increased serum sclerostin concentrations were independently associated with decreased one-year AVF survival (39% decrease per 1-SD increase in sclerostin concentration, p=0.001).
Conclusions: Increased serum sclerostin levels appear to be independently associated with AVF survival and calcification among hemodialysis patients.