CLINICAL PRACTICE AND DECISION MAKING IN ACUTE STROKE

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Introduction

Cardiac markers are increased in cerebrovascular conditions, particularly in acute stroke (AS) in the contest of chronic cerebrovascular disease (CCVD), compared to other neurological diseases (OND) (*intergroup variability*). No significant fluctuations were found at repeated measurements in one week time (*intragroup unvariability*) and at different time lag in bounce backs (Fiori P. et al., ICHB, SIN, WCN, 2013; SIN, WSC, 2014; ESOC, SIN 2015; ESOC, IHBC, WCN, IHBC, 2016). The aim of our current study is to evaluate the differences, according to the severity of heart failure .

Methods

So far, we recruited 207 OND (age 47,88 sd 16,28), 596 CCVD age 77,51 sd 9,05), 783 AS (age 78,16 sd 11,58). We classified them in subgroups according to the severity of neurological and heart dysfunctions, evaluated by Apache score, Glasgow Coma (GCS), Glasgow Outcomes (GOS), Modified Rankin (MRS), CHAD2DS2VAsc, HASBLED, Hachinski, New York Heart Association (NYHA), American Cardiology Association (ACA) scales, pH, Simplified Pulmonary Embolism Severity Index (SPESI), Pulmonary Embolism Severity Index (PESI). Statistical analysis was performed by unpaired T test, ANOVA repeated measures and Pearson's correlation test.

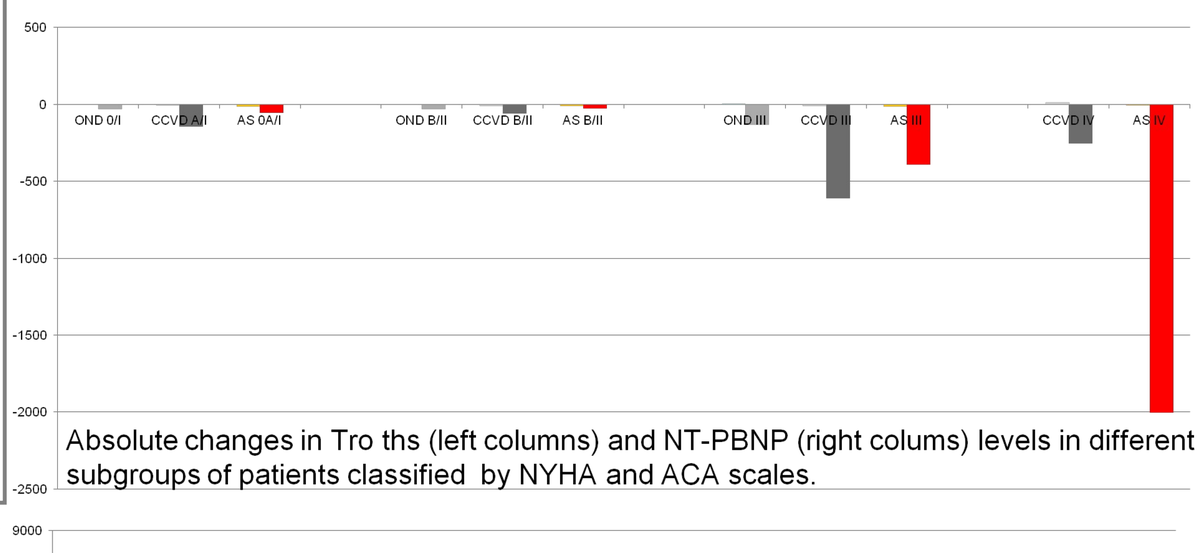
Results

The most significant alterations of Troponin ths (Tro ths) and NT-pro-Brain-Natriuretic Peptide (NT-pro-BNP) were detected in class III/C, IV/C and IV/D NYHA/ACA, above all concerning NT-pro-BNP, especially in AS with CCVD, and in unstable CCVD, compared to class 0/I patients ($p < 0,001$).

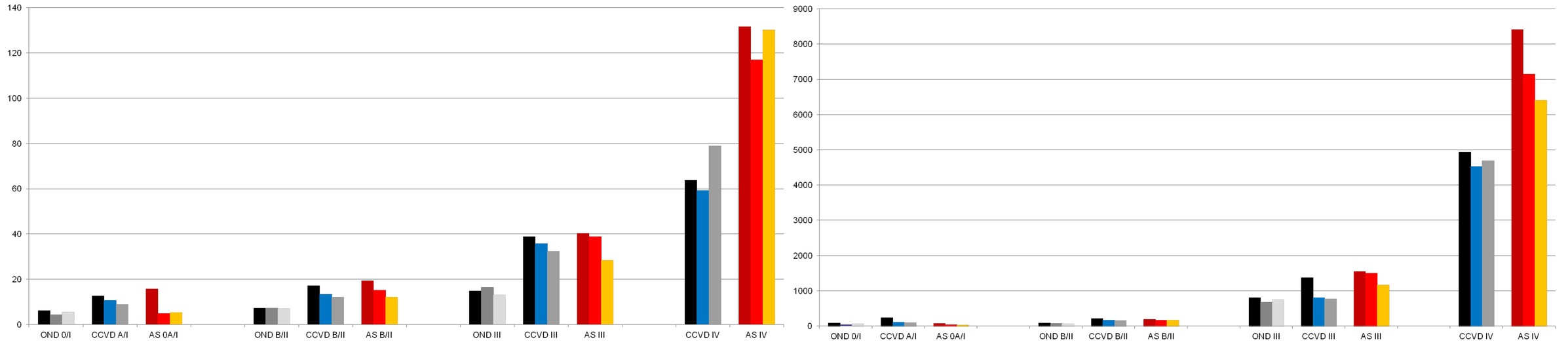
No significant intragroup differences were found at repeated measures at T test and ANOVA, although absolute and relative changes > 20% were detected. Better outcomes at Glasgow Outcomes Scale and Modified Rankin Scale were observed in class III/C, IV/C, IV/D NYHA/ACA patients with a relative percentage decrease of at least 20% of Tro ths and 100% of NT-pro-BNP. Correlations were found among CHAD2DS2VAsc, HAS BLED, Hachinski, Apache, GCS, GOS, MRS, pO_2, SPESI and PESI, echocardiographic parameters, mainly with NT-pro-BNP ($r > 0,90$).

Discussion

Our data highlight important features within the same category of AS accounting for worst outcomes,restricting therapeutical effectiveness, prolonging hospitalization and predicting bounce backs. Cardiac parameters are useful for early identification and treatment of emergencies, safe discharge and correct decision making concerning assistance and rehabilitation.



Absolute changes in Tro ths (left columns) and NT-PBNP (right colums) levels in different subgroups of patients classified by NYHA and ACA scales.



Serial assessment of Tro ths (left) and NT-PBNP (right) levels (pg/ml) in different subgroups of patients classified by NYHA and ACA scales.

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