Abstract: **P1828**

**Predictors of blood pressure response to renal revascularization in renal artery stenosis' patients presenting acute cardiac syndromes**

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Introduction: Completely different patterns of activation for the renin-angiotensin-aldosteron system depending on the extension of vascular involvement (unilateral or bilateral) were recently demonstrated. These findings may have an impact upon blood pressure (BP) response to renal revascularization.

Purpose: The analysis was aimed to evaluate the response of BP and renal function in patients with significant renal artery stenosis (>70%) presenting acute cardiac syndromes. Methods: 78 hypertensive patients diagnosed with significant uni- and bilateral RAS were prospectively enrolled, subsequently resulting in 3 groups (34-unilateral, 28-bilateral RAS and 16-RAS in solitary kidney). Clinical, biological and echocardiographic parameters were comparatively evaluated between groups at admission and 12 months' after renal stenting. BP evolution and renal function' after stenting were evaluated after one year. Regression logistic analysis - univariate and multivariate (stepwise Likelihood ratio method) was used in order to determine the independent predictors for major outcomes.

Results: No significant differences between groups regarding baseline characteristics (age, gender, stenosis' severity, comorbidities, blood pressure values, biologic and echo parameters) were found. The comparative analysis identified a significant reduction of BP values (systolic, diastolic, medium, pulse pressure) 12 month' after renal stenting (BP variation of 23.67±19.86 mmHg, 14.86±12.34mmHg, 17.80±13.46 mmHg and 8.81±15.28 mmHg respectively, p<0.001). Controlled BP after revascularization was found in 35.1% of patients and improved BP in 44.6% of the entire series, without significant differences between groups (p>0.05). Cured BP was not identified in the current analysis. The number of antihypertensive classes after renal stenting remained similar (3.51±1.1 vs. 3.41±1.09, p>0.05). Multivariate regression analysis confirmed three independent predictors for BP responder (cured and controlled BP) in the studied population: diabetes, diastolic BP and the severity of residual stenosis. The non-diabetic status predicted a favorable outcome of 8.42 times higher than diabetes (95%CI, 1.71-4.41). The higher diastolic BP (over the median value of 100 mmHg) indicated a greater likelihood of BP responder (95%CI, 0.86-0.97). The accuracy of the combined predictive model as quantified by the area under the receiver-operating characteristics curve was 0.89 (95%CI, 0.81-0.96, p=0.039). Different predictive models emerged for diabetic vs. non-diabetic patients. Conclusions: The current findings emphasized favorable outcomes in terms of BP control after renal revascularization in patients presenting acute cardiac syndromes, including diabetes associating nephrosclerosis. The extension of vascular involvement did not significantly impact BP outcomes in the studied groups, although different responses in terms of BP evolution (improvement, controlled or stationary) were observed.