

ascending aorta presented the larger diameter in 81.6% of cases. Despite the absence of aorta dilation, ascending aorta diameter was larger than the aortic root in 40.6% of the non-dilated group.

Conclusions: Twenty percent of BAV patients did not have aorta dilation. These patients less frequently had: arterial hypertension, BAV-I morphotype and significant valvular dysfunction. Nevertheless, more than 40% presented larger ascending aorta than aortic root diameters.

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Incidence and risk of cerebral ischemic lesions detected by diffusion-weighted magnetic resonance imaging after balloon aortic valvuloplasty

K. Yamashita, M. Iwasaki, R. Masaki, S. Odajima, T. Kamada, S. Yokota, D. Tsuda, T. Inoue, H. Okamoto, Y. Matsuo, S. Kim, T. Hayashi. *Hyogo prefectural Awaji Medical Center, Sumoto, Japan*

Background: Balloon aortic valvuloplasty (BAV) is a treatment option for severe aortic valve stenosis (AS). Previous studies reported that the symptomatic cerebral infarction was observed in approximately 1–2% of patients after BAV. The silent cerebral ischemic lesions (SCIL) detected by diffusion-weighted magnetic resonance imaging (DW-MRI) after catheter interventions are relatively common, but the incidence of SCIL after BAV is unknown.

Purpose: We aimed to investigate the incidence and risk factors of SCIL in patients undergoing BAV and to correlate DW-MRI findings with neurological impairments.

Methods: Between November 2015 and December 2016, a total of 50 consecutive BAV cases (78% female, mean age 87±16) at our institution were investigated. All cases underwent echocardiogram before and after procedure. Post-procedural SCIL were assessed by head DW-MRI within 1 week after BAV.

Results: Total of 563 SCIL were detected in 48 patients (96%), and the average number of SCIL per patient was 11.3±8.5. Only one case (2%) suffered from partial paralysis. The longer procedure time ($R=0.41$; $P=0.003$), the frequency of balloon inflation ($R=0.32$; $P=0.03$), the acute gain of aortic valve area (AVA) assessed by echocardiogram ($R=0.31$; $P=0.03$), higher New York Heart Association (NYHA) class ($P=0.03$) and absence of mitral annular calcification ($P=0.007$) were significantly associated with high frequency of SCIL. Multiple regression analysis revealed that longer procedure time, greater change of AVA and higher NYHA class were independently associated with the incidence of SCIL.

Risk factors of SCIL

Variables	Univariate		Multivariate	
	R	P-value	R	P-Value
Procedure time (min)	0.42	0.002	0.49	0.002
The frequency of balloon inflation	0.33	0.03	0.15	0.35
Delta aortic valve area (cm ²)	0.32	0.02	0.43	0.005
New York Heart Association class	0.33	0.02	0.43	0.006
Presence of mitral annular calcification	-0.38	0.006	-0.23	0.14

Multivariate regression analysis was used to evaluate the association with significant factors and the incidence of SCIL. Longer procedure time, greater change of AVA and higher NYHA class were independently associated with the incidence of SCIL.

Conclusions: The incidence of SCIL after BAV was high, whereas the incidence of clinically symptomatic stroke was low in very elderly patients with multiple high-risk comorbid conditions. The SCIL after BAV may have little to do with neurological impairments.

HYPERTENSION

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The functional activity of platelets in patients with hypertension in conjunction with non-alcoholic fatty liver disease

N. Bazhenova, V. Netiazhenko. *National O.O. Bohomolets Medical University, Propedeutics of internal medicine #1, Kiev, Ukraine*

Background: The prevalence of NAFLD in various European countries is 10–24% in the general population, among them 57–74% of obese people.

The abdominal type of obesity is the most characteristic attribute of NAFLD, which carries a large risk for the development of cardiovascular disease. As one of the major modifiable risk factors for diseases of the cardiovascular system, obesity leads to its rapid progression, more severe and more frequent complications, including blood thrombophilic changes that contribute to heart attack, stroke.

Objective: To improve the early diagnosis of thrombophilic blood changes in patients with hypertension and NAFLD by determining the functional activity of platelets.

Methods: 54 patients were studied (35 men and 19 women). The average patient age 59.7±1.8 years. Patients were divided into three groups: I - 20 patients with hypertension and without NAFLD, II - 19 hypertensive patients with NAFLD, III group - 15 patients with NAFLD without hypertension. The control group consisted of 15 healthy subjects matched for age and sex. All patients underwent clinical tests; for verification of NAFLD: ultrasound of the abdominal cavity, the study FibroMax; viral hepatitis were excluded by laboratory methods. Spontaneous platelet aggregation was evaluated by laser aggregometer to achieve the goal.

Results: A significant increase in the degree of spontaneous aggregation of platelet has been found in patients in all groups compared to the control group: patients without hypertension and NAFLD have increasing by 31% ($p<0.05$), in patients with hypertension and NAFLD by 62% ($p<0.05$), patients with NAFLD without hypertension to 39% ($p<0.05$). Thus, patients with hypertension with NAFLD degree of spontaneous aggregation was 31% higher in comparison with the group of hypertensive patients without concomitant NAFLD, and 23% higher in comparison with the group of patients with isolated NAFLD ($p=0.026$).

Conclusion: In hypertensive patients, an increase of functional activity of platelets, which greatly increases the severity of accession NAFLD. Thus in patients with isolated NAFLD also observed a statistically significant increase in spontaneous aggregation of platelets, which can be considered as one of the NAFLD risk factors thrombophilic changes in primary hemostasis.

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Assessment of obesity, smoking status and their correction in patients with hypertension in outpatient practice

E.A. Pravkina, A.N. Vorobyev. *Ryazan State Medical University, Ryazan, Russian Federation*

Aim: To evaluate the assessment of obesity and smoking status as risk factors (RF) of cardiovascular complications and their correction in patients with hypertension (AH) in outpatient practice.

Methods: As a part of REgistry of CardioVAscular diseAses (RECVASA, 2012–2013) data about smoking and obesity was analyzed according to medical records of AH patients ($n=2850$, 27,8% of men). Median age was 64,8 (56,8; 74,8) in men and 70,6 (60,1; 77,6) in women. After that the representative patient sample ($n=130$, 20,8% of men) was interviewed with measuring waist circumference and body mass index (BMI).

Results: Smoking status was mentioned in the records of 3,6% of patients. Physical examination results were recorded in less than 100% of cases: waist circumference – in 2,7% (the value was assessed only in a pilot study of 987 patients), height – in 17,4%, body mass – in 19,1%, BMI – in 5,4% (only 29,8% of records had BMI calculated when both height and body mass were recorded). According to the interview 12,3% of patients had history of smoking, only 12,5% of their records included advice on smoking cessation. 50% of male smokers had quit smoking; other half and all earlier smoking women continue to do so. BMI showed obesity of various grades in 32,5% of cases (per records) and 52,9% (per interview). Women were more frequently obese than men (58,2%, $p=0.003$). 71,5% of patients had waist circumference consistent with abdominal obesity, women dominated ($p=0.002$). Advice on lowering weight was present in 12 (11,4%) of cases with high body mass or obesity, that were newly revealed by interview. Among patients with obesity only 7,7% had lost some weight, 58,5% remained the same, 33,8% did not check their weight.

Conclusions: 1) Underregistration of risk factors is observed in patients with hypertension, which is not in compliance with clinical guidelines. 2) High demand of non-drug correction of risk factors (obesity, smoking) revealed, with concomitant lack of information/motivation in patients and low activity of healthcare professionals

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The effect of a dietary salt restriction with low-sodium bread on the blood pressure (BP) and the endothelial function

A. Zito¹, C. Cosola², V. Maranzano², G. Dalfino², G.B. Pertosa², C. Manno², R. Carbonara¹, L. Gesualdo², M.M. Ciccone¹. ¹ *Polyclinic of Bari, Department of Emergency and Organ Transplantation – Cardiovascular Disease Unit, Bari, Italy;* ² *Polyclinic of Bari, Department of Emergency and Organ Transplantation – Nephrology, Dialysis and Transplantation Unit, Bari, Italy*

Background: Salt intake is a critical factor in hypertension. In this context, a significant reduction of the “hidden salt” of processed foods might represent an effective strategy to achieve the target sodium intake.

Purpose: The effect of a dietary salt restriction with low-sodium bread on the blood pressure (BP) and endothelial function, studied by flow-mediated dilation (FMD).

Methods: We carried on a 6-months multi-center randomized controlled trial on hypertensive patients. 540 subjects with hypertension were enrolled and randomized in 3 study arms. Group A ($n=19$) followed a free diet with the use of standard bread (750 mg Na/100g), group B ($n=17$) followed a low-sodium (2300 mg Na/die) diet including the use of standard bread, while group C ($n=18$) followed a low-sodium (2300 mg Na/die) diet including the use of low-sodium bread (280 mg Na/100g). We measured blood pressure, serum and urine sodium concentration, and endothelial function by FMD.

Results: After 6 months, urinary sodium ($p=0.02$), systolic ($p=0.01$) and diastolic ($p=0.002$) BP were significantly reduced as compared to baseline levels only in group C. FMD improved in all the three groups, although more remarkably in group C (group A: 9.72±2.50 vs 7.43±1.40%, $p=0.02$; group B: 10.35±2.65 vs 5.81±2.03%, $p=0.02$; 10.84±2.68 vs 5.57±1.98%, $p=0.0004$). FMD did not show any significant correlation with BP.

Conclusions: We obtained a BP-independent effect on FMD in all the enrolled patients, suggesting that even small reductions in sodium intake could result in amelioration of endothelial reactivity. Our data encourage the strategy of salt