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Title: Relationship between NT-proBNP level, echocardiographic parameters and cardiovascular diseases in patients with obstructive sleep apnoea (OSA)

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Body: Brain natriuretic peptide (BNP) is a hormone secreted by the ventricles in response to heart overload. The aim of this study was to assess prevalence of elevated NT-proBNP (inactive form of BNP) level in OSA patients and its relations to echocardiographic parameters and OSA-asociated cardiovascular complications. We studied 87 OSA pts, mean AHI was 43.2±24.1, age - 57.5 ±10.6 yrs, mean plasma NT-proBNP level was 198.5±357.3 pg/ml. Elevated NT-proBNP concentration was found in 34 pts with OSA. Comparison of OSA pts with normal and elevated NT-proBNP level is shown in a table below.

Variable	Normal NT-proBNP	Elevated NT-proBNP	p
RV (mm)	28.3±3.3	27.8±3.8	NS
IVS-t (mm)	12±2	11.4±2.1	NS
LV (mm)	53.2±5.6	53.3±7.7	NS
PWt (mm)	11.4±1.6	10.7±1.6	NS
La (mm)	38±4.1	39.9±6.7	NS
AcT (ms)	108.7±16.8	103.4±22	NS
TVPG (mmHg)	26.7±5.1	29.8±7.5	NS
AHI (n/h)	48.1±25.8	35.3±19.3	p=0.03
Coronary Artery Disease - CAD (n/%)	12(22.6%)	21(63.6%)	p=0.001
Arterial Hypertension - AH (n/%)	39(73.6%)	27(81.8%)	NS
Heart Failure - HF (n/%)	10(18.9%)	11(33.3%)	NS

Elevated NT-proBNP level was found in 39.8% OSA subjects. Logistic regression analysis revealed that

elevated NT-proBNP level (>125pg/ml) did not correlate with studied echocardiographic parameters in OSA pts (p>0.05). NT-proBNP level negatively correlated with AHI (r =-0.25, p=0,02). Elevated NT-proBNP concetration indicated at increased risk of coronary artery disease (OR = 12.94, 95%CI = 2.4-68.5, p<0.01). Conclusions: Increased plasma concentration of NT-proBNP was not related to echocardiographic parameters, but it was associated with occurence of CAD in OSA subjects.