SUBCLINICAL CAROTID ATHEROSCLEROSIS IN THE CONDITIONS OF ROTATIONAL SHIFT WORKING IN THE ARCTIC: data of preventive examination

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Aim: to study subclinical carotid atherosclerosis (SCA) in the relationship of EchoCG, treadmill test (TT), ABPM results

Methods: In Yamburg polar settlement (68 N) 743 males (M) and 213 females (F) with mean age of 49.9±7.6 years (p=0.709) with arterial hypertension (400 individuals), office blood pressure (BP) 145.9±10.0/94.9±6.9 mmHg in M and F (p=0.224/0.587) and normotensive individuals were examined.

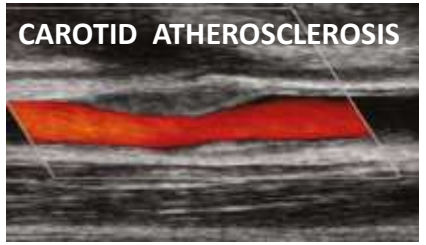
Results: SCA in CA in M were associated with age (p<0.0001), years of rotational shift work (p<0.01), left ventricular (LV) remodeling (p<0.01), type of daily BP profile (p<0.01); in W - with age (15.6%). In M AP were more often located in CA (p=0.0001). ABPM determined normotension in 34.9% of M and 42.1% of F (p=0.208). SCA were detected in M with daily BP profile "non dipper" and "night peaker". While concentric hypertrophy (p=0.0001) and concentric LV remodeling in M (p=0.046). SCA were registered more often in individuals with concentric LV hypertrophy regardless of BP level. Negative TT was obtained in 82.6% of M and 87.2% of F (p=0.393). In 79.5% of M with SCA there was revealed negative TT, in 10.6% - doubtful, in 9.9% - positive.

Age

$\chi 2 = 51.4$; plevel < 0.0001;
factor influence = 43.7%

Sex

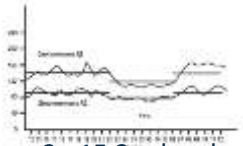
factor influence = 6,8%



Structure model type of the heart

$\chi 2 = 84.4$; plevel< 0.000 1;
factor influence = 48.9%

BP daily profile



$\chi 2 = 15,2$; plevel = 0.000 5;
factor influence = 15,2%

Blood Pressure

$\chi 2 = 11.6$; plevel = 0.0031;
factor influence = 9.9%

Conclusions: Under the conditions of rotational shift work in the Arctic, SCA was detected twice more often in M compared to F. It was equally dependent on age, years of rotational shift work, daily BP profile. It correlated with concentric hypertrophy and concentric LV remodeling in M and was associated with negative treadmill test result.

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