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RISK FACTORS AND SUBCLINICAL ATHEROSCLEROSIS IN FIRST DEGREE RELATIVES OF PATIENTS WITH CORONARY ARTERY DISESE

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Introduction: The strong family history of coronary artery diseases (CAD) is an important risk factor in first degree relatives. The history of CAD 10-fold increase poor clinical outcomes. In addition, several studies have reported the usefulness of carotid ultrasound in the screening of cardiovascular risk prediction.

Aim: We aimed to characterized cardiovascular risk factors and quantified subclinical atherosclerosis by vascular ultrasound in first-degree relatives of patients with early onset coronary artery disease.

Material and methods: We included 27 first degree relatives (brother and father) from 29 male patients with early onset of CAD. Blood tests included: low density cholesterol, high density cholesterol (HDL), triglycerides, total cholesterol, apoA, Lp(a), iterleukin-61, homocysteine, apolipoprotein B, oxidized LDL, HbA1c) were estimated. Carotid artery ultrasound with B mode was used to evaluate the carotid artery plaques on both sides. All subjects were tested for the same panel. Data was analysed with SPSS statistical package V.23 statistical package with One-way ANOVA.

Results and discussion: Data is presented for patient, brothers and fathers groups respectively. Age comparison was 45,1 (±6,96) vs 47,5 (±7,7) vs 72,80 (±9,83), smoking 9 (31%) vs 4 (33,3%) vs 4 (26,7%), body mass index 27,40 (±6,39) vs 28,76 (±7,04) vs 31,30 (±9,55) p=0,276) hypertension 21 (72,4%) vs 7 (58,3%) vs 13 (86,7%) p=0,397, dyslipidemia 29 (100%) vs 9 (75%) vs 11 (73,3%) p=0,92, systolic upper arm EKSS 128,25 (±11,75) vs 136 (±13,72) vs 149 (±22,25) p=0,017*, none of the patients or brothers group had diabetes and only 1 father had this disease. In first degree relatives, we found statistically significant higher total cholesterol (4,75(±0,79) vs. 5,63(±0,94) vs. 5,75(±1,19); p= 0,03) LDL cholesterol (2,82(±0,64) vs. 3,52(±096) vs. 3,53(±1,17); p= 0,019) HbA1c (5,65 (±0,37) vs. 5,58 (±0,45) vs. 5,96 (±0,47); p=0,041*) compare to CAD patients. Means of HDL cholesterol (1,22(±0,31) vs. 1,36 (±0,45) vs. 1,25(±0,67); p= 0,676) triglycerides (1,52(±0,80) vs. 1,61(±1,15) vs. 2,19(±2,08); p =0,304) apolipoprotein A1 (1,54(±0,24) vs. 1,64(±0,27) vs. 1,54 (±0,39); p= 0,559) apolipoprotein B (0,96 (±0,22) vs. 1,07(±0,28) vs. 1,15(±0,33); p=0,091) lipoprotein (a) (0,31(±0,42) vs. 0,14(±0,2) vs. 0,25(±0,38) p= 0,438) interleukin - 6 (4,41(±5,34) vs. 3,96(±1,81) vs. 7,72(±9,67) p= 0,21) homocysteine (12,02(±3,71) vs. 12,72(±3,47) vs. 15,98(±5,78) p= 0,20) APB/A1 (0,64(±0,17) vs. 0,67(±0,23)vs. 0,80(±0,27) p= 0,076) oxidized LDL (87,55(±19,67) vs. 98,5(±29,83) 106,45(±40,80) p= 0,118) had no statistically significant difference. Healthy first degree relatives had no more affected carotid arteries, (plaques on the left side 9 (31%) vs. 2 (16,66%) vs. 9 (60%) p= 0,289; plaques on the right side 7 (24,13%) vs. 2 (16,66%) vs. 9 (60%) p= 0,483.)

Conclusion. Healthy first degree relatives had higher TC, LDL, but no increased carotid plagues compared with CAD patients.