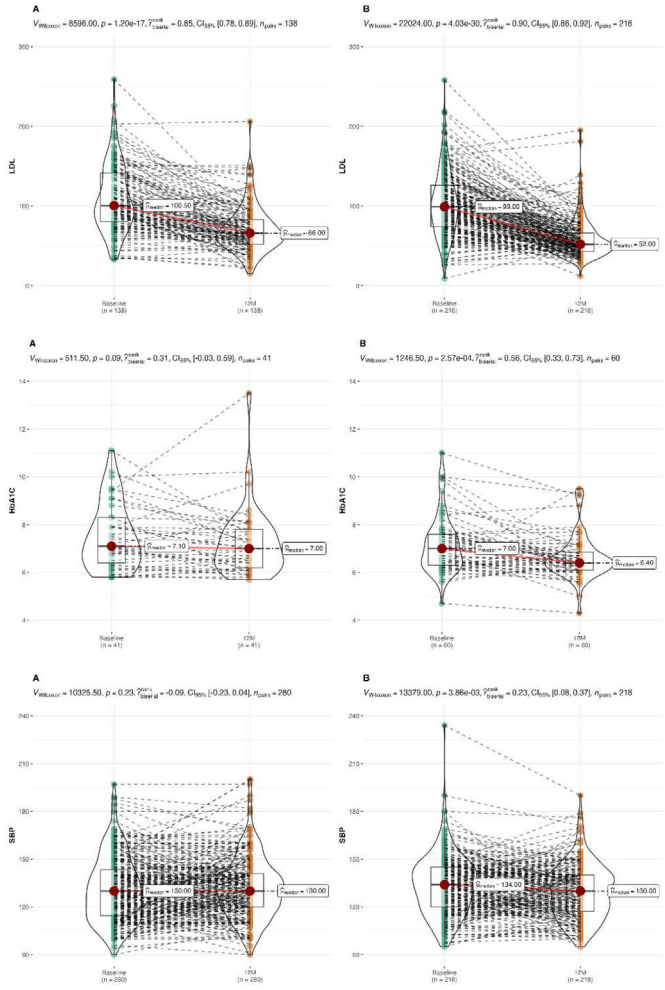

Conclusions: Implementing an SCCC program emerges as a multifaceted intervention leading to lower median values for LDL-C, improved glycemic control, and reduced blood pressure one year after ACS.

P285 / #1102, Poster Topic: *AS03 DYSLIPIDEMIA AND RISK FACTORS / AS03.01 Epidemiology of cardiovascular diseases and risk factors*

ADDITIONAL CARDIOVASCULAR DISEASE RISK FACTORS PRESENT IN CHILDREN WITH FAMILIAL HYPERCHOLESTEROLEMIA AT THE FIRST VISIT

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Background and Aims: People with Familial hypercholesterolemia (FH) have an increased risk for cardiovascular disease (CVD) because of the lifelong exposure to high LDL-cholesterol (LDL-C), and also in some cases because of added CVD risk factors, for example, high Lipoprotein(a) (Lp(a)), other dyslipidemias, hypertension, and obesity. In this study, we wanted to see to what extent those factors are already present in children with FH.

Methods: We have analyzed data from the first visits of a cohort of 298 children with heterozygous FH (APOB or LDLR) treated at the University Medical Center Ljubljana (52,7% were female, 70.1% had pathogenic mutation in LDLR gene, median age was 6.30 (IQR:5.69 – 7.79)). They had to have HDL cholesterol (HDL-C), triglycerides, Lp(a), blood pressure (BP) and body mass index (BMI) values measured.

Results: Lp(a) values above 30 mg/dL and 50 mg/dL were present in 73 (24.5%) and 34 (11.4%) of the children, respectively. BMI was above the 85th percentile in 72 (24.2%) children. In 64 (21.5%), systolic or diastolic BP was above the 95th percentile. Also, 64 (21.5%) of children had low HDL-C (under 40 mg/dL (1.03 mmol/L)). High triglycerides (above 200 mg/dl (2.58 mmol/L)) were present in two children (0.67%). At least one risk factors was present in 150 (50.3%), at least two risk factors were present in 41 (13.8%) and at least three risk factors were present in 4 (1.3%) children. One child (0.33%) already had four risk factors at the age of 13.1 years. The number of risk factors positively correlates with age (p=0.048).

Conclusions: Over half of the children with FH at the first visit have at least one of the CVD risk factors already present. The most prominent being high Lp(a) and overweightness. Early diagnosis of children with FH and early addressing of high LDL-C levels and added CVD risk factors is crucial.

P286 / #867, Poster Topic: *AS03 DYSLIPIDEMIA AND RISK FACTORS / AS03.01 Epidemiology of cardiovascular diseases and risk factors*

RELATIONSHIPS BETWEEN POLYGENIC RISK SCORES AND LDL LEVELS IN FAMILIAL HYPERCHOLESTEROLEMIA

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Background and Aims: Familial hypercholesterolemia (FH) is a common genetic disease with an autosomal dominant mode of inheritance, characterized by an increased level of low-density lipoprotein cholesterol (LDL-C) and a high risk of cardiovascular disease. Some cases of FH are polygenic and their genetic diagnosis is difficult. One approach to increasing the predictive value of genetic testing in FH became the development of polygenic risk scores (PRS). Aim of this study is to validate PRS based on six genetic variants LDLR (rs6511720), APOB (rs1367117), ABCG5/G8 (rs6544713), APOE (rs429358 and rs7412), CELSR2 (rs629301) with lipid parameters in patients with a possible/probable/definite FH.

Methods: The study included 101 patients diagnosed with FH (24 possible, 14 probable and 63 definite cases). For genotyping PCR-based methods (allele-specific PCR or PCR-RFLP) were used. The PRS value for each patient was calculated as the sum of the effects of each SNP, weighted by effect size, using b-coefficients determined from earlier GWAS results. Statistical analysis was carried out using SPSS 17.0.

Results: It has been shown in patients with a score of six points or less according to the Dutch diagnostic criteria for FH that PRS values were positively correlated with LDL-C levels ($r=0.439$, $p<0.05$) and carriers of the T allele have a lower LDL-C levels compared to carriers of the GG genotype of the LDLR gene (rs6511720) (p=0.010).

Conclusions: PRS may be informative for patients with possible and probable FH and may be used to refine cardiovascular risk prediction. This study was supported by Research grants № 075-15-2022-1110 and № 075-15-2023-132.

P287 / #1438, Poster Topic: *AS03 DYSLIPIDEMIA AND RISK FACTORS / AS03.01 Epidemiology of cardiovascular diseases and risk factors*

OBESITY-ASSOCIATED DISEASES AMONG RAILWAY WORKERS

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Background and Aims: The aim of the study was to study the prevalence of obesity-related diseases among railway workers under different systems.

Methods: In 2020-2022, a retrospective analysis of patient histories was conducted. The total number of patients was 210 people, of which 40% were women and 60% were men. The first group included 105 people (50%) with grade 1 obesity, the second group included 63 patients with grade 2 obesity, and the third group included 42 patients with grade 3 obesity.

Results: When studying blood pressure indicators, it was found that hypertension occurs in 93% of cases, while in the group of patients with stage 1 obesity - in 47%, with stage 2 obesity - in 28% and with stage 3 obesity - in 18% of cases. When studying carbohydrate metabolism, it was revealed that type 2 diabetes