# POSTER PRESENTATIONS

# OBESITY / LIPIDS

## PP-OL-01

### HETEROZYGOTE FAMILIAL HYPERCHOLESTEROLEMIA – A NEW CHALLENGE FOR ENDOCRINOLOGISTS (PART 2)

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**OBJECTIVE**
Heterozygote familial hypercholesterolemia (HeFH) is a common genetic condition that causes high levels of low–density lipoprotein–cholesterol (LDL–C). This study aimed to determine the incidence of HeFH in a single-centre endocrinologist's clinical practice in Riga East Clinical University Hospital (RECUH) Outpatient Clinic.

**METHODOLOGY**
We collected data from medical records with HeFH (E78.01) from 2019 to 2021. Based on LDL–C, Apo–B, Apolipoprotein index (Apo Index), Lipoprotein(a)–Lp(a), Homocysteine, and DLCN score points, points were divided into 2 groups: the 1st group–definitive FH; the 2nd group–probable FH.

**RESULTS**
From a total of 3720 patients, 136 (3.7%) patients were included, 93 (68.4%) were females. The mean age was 49.96 ± 12.09 years old. 62 patients (45.6%) were included in the first group, 74 patients (54.4%) were in the second group. Only 20 patients (14.7%) received lipid-lowering therapy initially. The pretreatment laboratory findings in the 1st group were: LDL–C 4.48 ± 1.26 mmol/L; Apo–B 116.03 ± 26.14 mg/dL; Apo Index 0.77 ± 0.21; Lp(a) 78.66 ± 61.36 mg/dL. The laboratory findings in 2nd group were: LDL–C 4.09 ± 0.91 mmol/L; Apo–B 97.96 ±16.47 mg/dL; Apo Index 0.64 ± 0.11; Lp(a) 17.61 ± 23.36. In the 1st group, 40 (64.5%) patients received statins, 11 (17.7%) patients received statins and ezetimibe. In the 2nd group, 45 (60.8%) patients received statins, 10 (13.5%) patients received fibrates. In both groups, LDL–C, Apo–B, Apo Index, and homocysteine decreased at the end of the study ($p<0.001$). Lp(a) in both groups did not decrease ($p=0.552$;$p=0.889$). DLCN in the 1st group was 2.25 ± 2.0 points and 1.29 ± 1.4 points in the 2nd group.

**CONCLUSION**
HeFH is far more frequent than previously considered and its diagnosis and therapy must be improved.

## PP-OL-02

### CORRELATING THE CAROTID INTIMA-MEDIA THICKNESS WITH CARDIO-METABOLIC RISK FACTORS IS USEFUL IN ASSESSING SUBCLINICAL ATHEROSCLEROSIS PROGRESSION IN OBESE CHILDREN

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**OBJECTIVE**
Multiple risk factors can act as precipitant causes for atherosclerosis and analyzing them can offer a better understanding of the cardio-metabolic status of obese children and provide a better prediction of overall cardio-metabolic risk in adulthood. Our aim is to evaluate how the carotid intima-media thickness (CIMT) correlates to identifiable risk factors.

**METHODOLOGY**
We analyzed 85 patients aged 6–18 years old by measuring their CIMT using the Aixplorer MACH 30 echography machine - automatic measurement software. Three study groups were defined: obese, overweight and normal weight. The clinical examination included: BMI, waist circumference, puberty development, blood pressure measurements. Risk factors analyzed were: artificial postnatal nutrition, birth weight <2500 g or >3500 g, pregnancy-associated risk factors (>20 kg weight gain, gestational diabetes, gestational hypertension, autoimmune thyroiditis, smoking during pregnancy), family history (obesity, dyslipidemia, type 2 diabetes, coronary disease, stroke, autoimmune thyroiditis), smoking, sedentary lifestyle and abnormal sleeping habits.

**RESULTS**
CIMT values were significantly higher in adolescents. No difference was observed between sexes. CIMT values correlated positively with Tanner stages. More than 20 kg weight gain during pregnancy and other at-risk disorders during pregnancy (p=0.025), family history of cardiovascular risk (p=0.047), hypertension (p=0.01), and smoking (p=0.018) were linked to increased CIMT. Artificial postnatal nutrition, high/low birth weight and sedentary lifestyle were also linked to increased CIMT.

**CONCLUSION**
Childhood obesity predicts higher values of CIMT in young adulthood. Weight gain of >20 kg during pregnancy, family history of cardiovascular risk, high blood pressure and smoking are easily identifiable risk factors that are linked to increased CIMT. A medical history focused on risk factors is indispensable for assessing the cardio-metabolic risk status of patients.

## PP-OL-03

### CAROTID INTIMA MEDIA THICKNESS—A VALUABLE TOOL IN ASSESSING SUBCLINICAL ATHEROSCLEROSIS PROGRESSION IN OBESE CHILDREN

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**OBJECTIVE**
After the COVID-19 pandemic, the prevalence of obesity among children is higher than ever. The carotid intima-media thickness (CIMT), a predictor of atherosclerotic progression, correlates with most of the clinical and paraclinical parameters used for the assessment of obese patients. Our objective is to show that CIMT can be used in the assessment of subclinical atherosclerosis in obese children.

**METHODOLOGY**
We analyzed 85 patients aged 6–18 years old by measuring their CIMT using the Aixplorer MACH 30 echography machine - automatic measurement software. Three study groups were defined: obese, overweight and normal weight. The analysis focused on correlations between correlates and BMI, waist circumference, Tanner puberty stages and blood pressure as clinical tools, and to the usual blood parameters: lipid panel, triglycerides and fasting glucose.

**RESULTS**
Obesity and abdominal adiposity in children is linked to increased CIMT. Waist circumference and TG/HDL-C ratio are significant predictors of CIMT. Higher values for CIMT were detected in children with Tanner 4 and 5 development stages (p<0.041). Children with blood pressure values over the 95th percentile presented higher values for CIMT, regardless of their BMI. HDL-C, LDL-C, total cholesterol and triglycerides were correlated with CIMT; fasting glucose was not.

**CONCLUSION**
Expected values of the CIMT are influenced by the severity of the obesity. Abdominal adiposity of obese children is reliably correlated with CIMT values. High blood pressure is correlated to higher CIMT values, regardless of the patients' BMI. All evaluated blood parameters, except for fasting glucose, showed correlations with CIMT.

## PP-OL-04

### OVER-THE-COUNTER MULTIVITAMIN TRANSCUTANEOUS PATCH DOES NOT CORRECT NUTRITIONAL DEFICIENCIES IN PATIENTS UNDERGOING BARIATRIC SURGERY: A CASE REPORT

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**BACKGROUND**
Nutritional deficiencies of water-soluble vitamins are commonly seen following bariatric surgery and proper replacement is critical. The availability of over-the-counter (OTC) vitamin supplements has created challenges in appropriate vitamin replacement, given the potential for lower efficacy than typical prescription-strength formulations. We report a patient who developed lower extremity neuropathy following Roux-en-Y gastric bypass surgery (RYGB) despite using OTC skin patch multivitamins.