INSULIN RESISTANCE FOR ADOLESCENTS WITH OBESITY IN LATVIA

Jurgita Gailite [1, 2], Eliza Salijuma [1], Olga Lubina [2], Ilze Napituhina [2], Karina Agadzanjana [2],Una Lauga-Tunina [2], Inara Kirillova [2], Iveta Dzivite-Krišane [1, 2]

Riga Stradin's University, Latvia[1]
Children's Clinical University Hospital, Latvia[2]

INTRODUCTION

Insulin resistance for adolescents with obesity takes up a central role in the development of metabolic comorbidities, especially of type 2 diabetes.

MATERIAL AND METHODS

Data about anthropometric parameters, blood samples was collected and analyzed by a multidisciplinary team in Children's Clinical University Hospital (Riga, Latvia).

OBJECTIVE

The aim of this study was to compare anthropometric data, apolipoprotein B, glucose, insulin level and HOMA-IR coefficient between genders.

RESULTS

60 children participated in study, 25 girls and 35 boys. Mean age (years±SD) was 13.3±2.5, weight (kg±SD) 86.9±23.7; height (cm±SD) 165.9±12.4, BMI (kg/m²±SD) 31.1±5.2, waist circumference (cm±SD) 104.5±14.1.

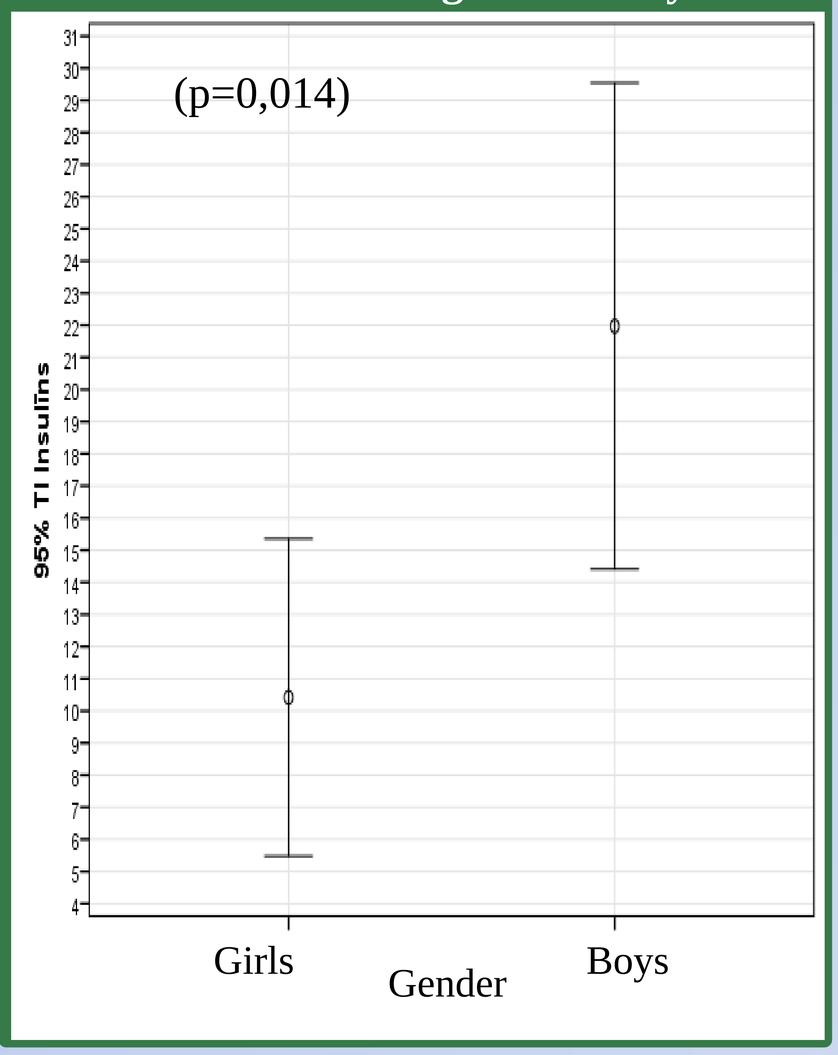
ANTHROPOMETRIC PARAMETERS

	N	Min	Max	Mean ± SD
Age (years)	60	10	17	13.3 ± 2.5
Weight (kg)	60	58	160	86.9 ± 23.7
Height (cm)	60	149	182	165.9 ± 12.4
BMI (kg/m²)	60	24,8	54,1	31.1 ± 5.2
Waist circumference (cm)	60	88	164	104.5 ± 14.1
Systolic blood pressure (mmHg)	60	116	178	129.8 ± 14.9
Diastolic blood pressure (mmHg)	60	61	111	82.7 ± 12.7

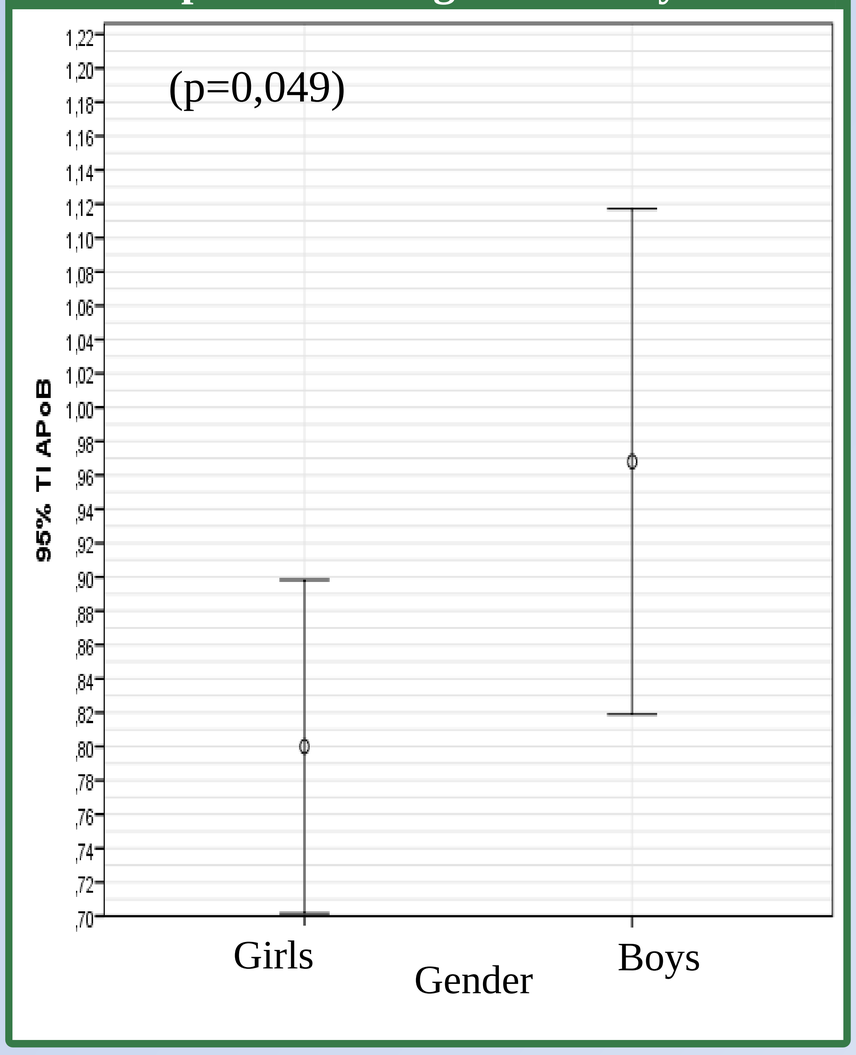
LABORATORY VALUE

	N	Min	Max	Mean ± SD
Glucose (mmol/l)	60	3.92	5.62	4.8 ± 0.4
Insulin (µU/mL)	60	4.22	39.30	16.8 ± 10.9
Apo A1 (mmol/l)	60	1.12	1.67	1.4 ± 0.1
Apo B (mmol/l)	60	0.63	1.26	0.9 ± 0.2
Total cholesterol (mmol/l)	60	3.16	5.65	4.3 ± 0.7
Uric acid (mmHg)	60	258.40	638.80	380.1 ± 95.5
HOMA-IR	60	0.82	8.41	3.7 ± 2.5

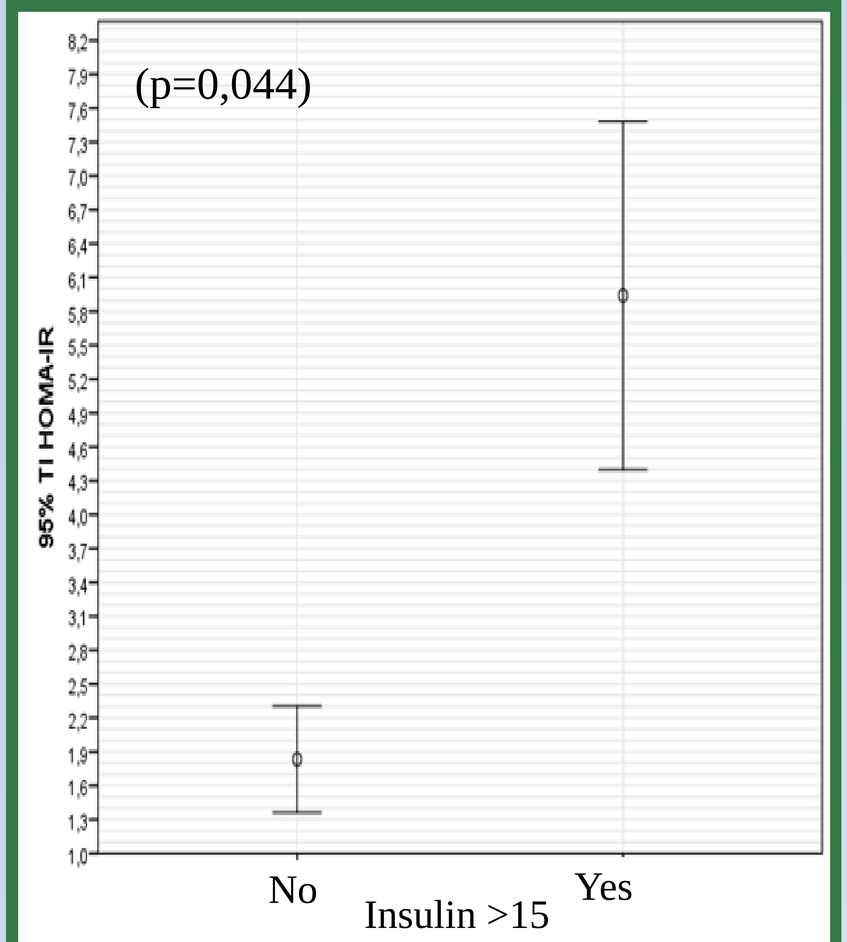
Insulin level for girls and boys



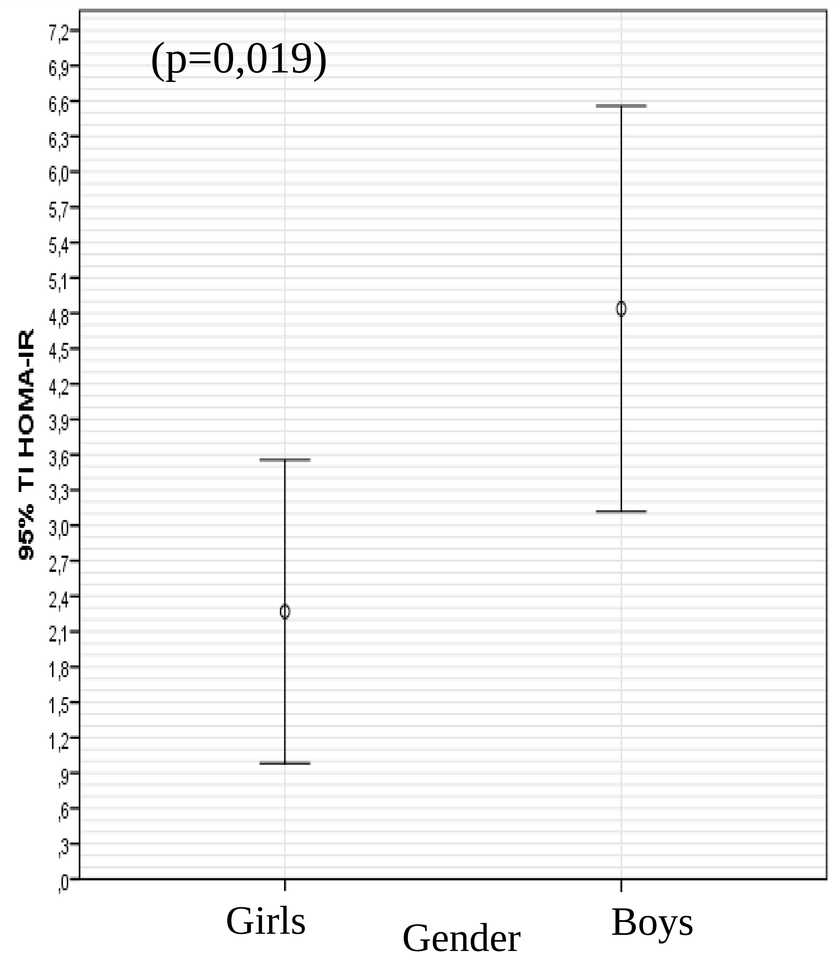
ApoB level for girls and boys



HOMA-IR coefficient value depend on insulin level



HOMA-IR coefficient for girls and boys



CONCLUSION

It is possible that there is gender predisposition to obesity-related complication development. Further research should be done to extend the study population and to assess factors that may have had effect on the result (birth weight, duration of breastfeeding, negative family history) for boys and girls.

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Fat metabolism and Obesity

Jurgita Gailite

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