increase in HOMA-IR and a 10% increase in TSH level was associated with one fold increase in geometric mean of insulin level (P = 0.003, 0.002, respectively), but the relationship between TSH and triglyceride levels disappeared.  

Conclusion TSH level was found related to the glucose metabolism in overweight and obese adolescents. Further prospective studies are needed to clarify the mechanism of this relationship.

**P524 FUNCTIONAL DISORDERS OF THE COLON IN ADOLESCENTS WITH OBESITY: ASSESSMENT OF QUALITY OF LIFE AND PHYSICAL ACTIVITY**

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Introduction A child’s quality of life (QL) is an integral characteristic of physical, psychological and social functioning of a child, based on self-perception and/or other peoples’ perception. Obesity affects the QL and often leads to development of comorbid diseases, disabilities and invalidity. The majority of people with obesity face difficulties integrating in the society due to poorer health, physical limitations or psychological issues.

The aim To characterize the change in QL and physical activity (PA) in adolescents with obesity and functional disorders of the colon (FDC).

Materials and methods We examined 111 adolescents with obesity: 64 girls and 47 boys (mean age 14.5±2.0 years), from 2016 to 2018. The main group included 73 adolescents with obesity, who suffered from irritable bowel syndrome (IBS). The second group included adolescents with obesity and other FDC; the third group comprised adolescents with obesity without FDC. All children underwent the questionnaire survey to establish their QL and PA (PAQ-C and PAQ-A 10–17; PedsQL-4.0). Statistical processing of results was conducted with Statistica 10.0, Windows. Difference was significant at P < 0.05.

Results The majority of adolescents with obesity are children with FDC (86.5%); functional diarrhea 15.6% and constipation 5.2%, nonspecific bowel disorders 3.1%, and IBS 76.1%, (among them: IBS with constipation – 65.8%, with diarrhea – 13.7%, mixed type – 20.5%). FA of children 1 and 2 groups (1.99 ± 0.56), in the 3rd group (2.46 ± 0.82). According to the PedsQ questionnaire for adolescents, group 1 had significantly lower total scores of QL compared to the group 2 (P = 0.03), and group 3 (P < 0.00), statistically significant differences were achieved mainly due to a decrease in emotional functioning (P = 0.0003) and social functioning (P = 0.002).

The percentage of QL in children with other FDC (group 2) is lower compared to group 3 (P <0.01), but higher than in the group of adolescents with IBS (P = 0.002).

Conclusions Every 6th obese adolescent has FDCs (86.5%), among which IBS is most common - 76.1%. Definitely, QL of adolescents with obesity without FDC is lower compared to group 3 (P <0.01), but higher than in other FDC, the third group comprised adolescents with obesity, who suffered from irritable bowel syndrome (IBS). The second group included adolescents with obesity and other FDC, the third group comprised adolescents with obesity without FDC. All children underwent the questionnaire survey to establish their QL and PA (PAQ-C and PAQ-A 10–17; PedsQL-4.0). Statistical processing of results was conducted with Statistica 10.0, Windows. Difference was significant at P < 0.05.

Results The majority of adolescents with obesity are children with FDC (86.5%): functional diarrhea 15.6% and constipation 5.2%, nonspecific bowel disorders 3.1%, and IBS 76.1%, (among them: IBS with constipation – 65.8%, with diarrhea – 13.7%, mixed type – 20.5%). FA of children 1 and 2 groups (1.99 ± 0.56), in the 3rd group (2.46 ± 0.82). According to the PedsQ questionnaire for adolescents, group 1 had significantly lower total scores of QL compared to the group 2 (P = 0.03), and group 3 (P < 0.00), statistically significant differences were achieved mainly due to a decrease in emotional functioning (P = 0.0003) and social functioning (P = 0.002).

The percentage of QL in children with other FDC (group 2) is lower compared to group 3 (P <0.01), but higher than in the group of adolescents with IBS (P = 0.002).

Conclusions Every 6th obese adolescent has FDCs (86.5%), among which IBS is most common - 76.1%. Definitely, QL of adolescents with obesity without FDC is higher than among adolescents with FDC (QL decrease is associated with IBS), mainly due to a decrease in emotional and social functioning. When assessing the relative frequency of changes in QL in children with FDC, significant towards a decrease in school