



## Serum adipokines and metabolic indicators in girls with Turner syndrome

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### ABSTRACT

The aim of this study was to discuss the association between serum adipokines levels and metabolic indicators in girls with Turner syndrome.

Dear editor,

I read with great interest the article by Zhang Y, et al. [1] published in Cytokine entitled “The correlation between serum adipokines levels and metabolic indicators in girls with Turner syndrome”. The authors investigated the association between serum adiponectin, chemerin and vaspin levels and metabolic indicators in 64 girls with Turner Syndrome (TS) with special emphasis on puberty. Serum adiponectin and chemerin were significantly higher and serum vaspin was significantly lower in the TS group against the control group. Although serum adiponectin was significantly higher in the non-puberty subgroup against puberty subgroup in girls with TS, there were no significant differences in serum chemerin and vaspin between the two TS subgroups. Concerning to the elevated adiponectin in girls with TS, the authors speculated that puberty would relate to the suppression of serum adiponectin level. I have some concerns about their study with special reference to serum adipokines and obesity.

First, Kolahdouzi et al. conducted an interventional study to evaluate the role of circuit resistance training (CRT) on inflammatory biomarkers and cardio-metabolic risk factors in obese young men [2]. Obesity indices, serum chemerin, insulin resistance index and low-density lipoprotein significantly decreased and high-density lipoprotein significantly increased in the CRT group against the control group. Serum chemerin had positive correlation with insulin resistance index, and they concluded that CRT contributed to the improvement of adipokines and insulin resistance. I suppose that puberty would partly contribute to worsening of metabolic components and increase of serum adiponectin. As there was a discrepancy on the change of serum chemerin between puberty and CRT, no contribution of puberty on serum chemerin and vaspin should be specified by considering the level of exercise and obesity.

Relating to the first concern Niklowitz et al. reported the relation-

ships among serum chemerin concentration, parameters of fat mass and metabolic indicators in obese children before and after weight reduction program with duration of 1 year [3]. Obese children demonstrated significantly higher chemerin concentrations compared to normal-weight children and weight loss was significantly associated with a decrease of chemerin and an improvement of metabolic indicators. The same authors also conducted an interventional study to know the relationships among serum bioactive leptin and parameters of fat mass [4]. Although bioactive leptin was strongly related to fat mass, the change of bioactive leptin was not significantly related to weight regain after the end of intervention. Serum chemerin and bioactive leptin have different biological functions concerning obesity control, and several adipokines should be simultaneously measured to know the causal relationship between obesity and subsequent adipokines levels in girls with TS.

Second, Gasbarrino et al. investigated the association of serum adipokines with carotid plaque instability and cerebrovascular symptomatology [5]. Adjusted odds ratio (OR) (95% confidence interval [CI]) of serum chemerin per one unit increase for plaque instability was 0.991 (0.985–0.998). In contrast, serum leptin levels were not significantly associated with plaque instability. This report also recognized the different functions of two adipokines for the progression of carotid atherosclerosis. Anyway, mechanism of the association between serum adipokines levels and metabolic indicators seems complicated and specificity on the relationship in girls with TS should also be evaluated by further study.

### Declaration of Competing Interest

None.

## References

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