

## Serum Concentrations of Ghrelin and Leptin according to Thyroid Hormone Condition, and Their Correlations with Insulin Resistance (*Endocrinol Metab* 2015;30:318-25, Kyu-Jin Kim et al.)

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Thyroid hormone maintains energy homeostasis in a complex biological manner. It regulates metabolism and energy expenditure, which are associated with many of the functions of endocrine gland systems. Ghrelin, which is a multifunctional gut peptide, influences energy homeostasis via orexigenic properties. Adipose tissue is a hormonally active endocrine organ that releases many clinically bioactive substances, one of which is leptin. Leptin also plays an important role in energy metabolism and maintenance of homeostasis [1].

There is potential crosstalk among thyroid function, ghrelin, and leptin. However, data from previous studies regarding the impact of thyroid status on serum concentrations of ghrelin and leptin are highly variable and controversial.

Recently, and with great interest, Kim et al. [2] evaluated differences in the serum concentrations of ghrelin, leptin, and insulin according to thyroid hormone levels and investigated their correlations. Although the levels of ghrelin, leptin, and insulin were not statistically different among different thyroid conditions, this approach was quite valuable in establishing their interrelationship in energy homeostasis, particularly in Koreans. However, in my opinion, adding more value to their findings would have emphasized the following point.

Patients with Hashimoto's thyroiditis have reduced levels of ghrelin compared with euthyroid subjects, as do patients with high antibody titers of thyroid peroxidase (TPO) [3]. TPO antibodies may lower ghrelin levels. Although the exact mechanism has not been established, a direct or indirect relationship might exist between thyroid antibodies and ghrelin. Therefore, it might be helpful for the authors to consider the TPO antibody status in the study subjects to identify the crosstalk among thyroid function, ghrelin, and leptin more clearly.

### CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

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