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### Studies on Anti-obesity Effects of Zinc (II) Complex On The Rats Fed High-fat Diet

[H. Hashimoto](#)<sup>1)</sup>, [K. Matsumoto](#)<sup>1)</sup>, [Y. Yoshikawa](#)<sup>2)</sup>, [H. Taniguchi](#)<sup>3)</sup>, [Y. Kojima](#)<sup>4)</sup> and [N. M. Kajiwara](#)<sup>1)</sup>

1) Laboratory of Nutrition Physiology, Graduate School of Life Science, Kobe Women's University

2) Department of Analytical and Bioinorganic Chemistry, Kyoto Pharmaceutical University

3) Yamato Institute of Lifestyle-related Diseases

4) Department of Chemistry, Graduate School of Science, Osaka City University

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#### Abstract:

The objective of this study is to investigate the effects of zinc(II)molecular complex with ascorbic acid ( $\text{Zn}(\text{VC})_2$ ), carnitine ( $\text{Zn}(\text{Car})_2\text{Cl}_2$ ), and glutamine ( $\text{Zn}(\text{Gln})_2$ ) on obesity and blood fluidity. We fed the high fat diet which consisted of 40% fat in the energy ratio to the male Wistar rats from 8 weeks of age for 10 weeks of period with or without Zn (II) complexes. Zinc(II) complexes were mixed to the diet as 30~50 mg Zn/kg body weight. The body weight and body fat composition have been intactly measured once a week. The remarkable body weight reduction was observed by  $\text{Zn}(\text{VC})_2$  and  $\text{Zn}(\text{Car})_2\text{Cl}_2$  mixed diet groups compared to the control groups. The accumulation of abdominal adipose tissues was diminished in  $\text{Zn}(\text{VC})_2$  and  $\text{Zn}(\text{Car})_2\text{Cl}_2$  groups compared to the control groups. We observed the tendency of improved blood fluidity at the 18th week of age measured by micro channel array analyzer (Bloody 6-7) in three Zn (II) complexes groups compared to control groups. These results suggested that zinc (II) complexes with vitamin C, carnitine, and glutamine have suggest the preventive effects of life-style related diseases such as obesity and diabetes.

**Key words:** [Zn\(II\) complex with ascorbic acid or carnitine](#), [anti-obesity](#), [high fat diet](#),

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