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## Relationship between IGF-1 and proinflammatory cytokines with immune function after nutritional support in undernourished elderly

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A bnormal nutritional status is common in the elderly and undernutrition status leads chronic low-grade increase of levels in circulating cytokine. The aim of this study is to investigate enhancement of insulin-like growth factor-1 (IGF-1) levels, which reflects nutritional status, and its correlation with changes in the cytokine levels after offering nutritional supplementation consisting of extra protein and energy to elderly with a risk of undernutrition. 56 non-diabetic, over 65-year-old participants, who are living independently in a community welfare center for the elderly, with a serum pre-albumin levels under 30 mg/dL and a BMI above 25 kg/m<sup>2</sup> were included in data analysis. During 2-week intervention period, all subjects received oral nutrition support. Before and after intervention, they were followed for a 2-week pre- and post-intervention period, respectively; and they were required to maintain routine dietary life during the period. Following 2-week intervention, IGF-1, pre-albumin, transferrin, and total lymphocyte count (TLC) showed greater increase in comparison with the baseline. In addition, body weight was significantly increased, on the other hand, changes in tricep fold thickness were not observed. Interleukin-6 (IL-6) showed greater reduction and tumor necrosis factor- $\alpha$  (TNF- $\alpha$ ) levels showed a decreasing tendency. Age had negative correlation with the levels of IGF-1, and had positive correlation with the levels of IL-6 and TNF- $\alpha$  at baseline. The changes from baseline ( ) in levels of IGF-1 had positive correlation with age and had negative correlation with IL-6 and TNF- $\alpha$ . Based on the study results, we observed enchantment of nutritional status and reduction of cytokine levels through the oral nutritional supplementation during 2 weeks.

### Biography

Hye Jin Yoo is a Graduate School Student in PhD course at Yonsei University. She is working at Nutrigenetics/Nutrigenomics Laboratory, in Department of Food and Nutrition, led by prof. Jong Ho Lee. Her research focuses on clinical nutrition; and is interested in studying interactions among nutrition, human metabolic profiles, and metabolic diseases. She has published 1 paper in reputed journal.

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