ABSTRACT

Objective: Perioperative immune-enhancing enteral formula (IEEF) is effective to decrease the rate of infectious complications, but whether the chronic use of IEEF is beneficial is not known to us. A prospective randomized clinical trial was performed to examine the safety and effectiveness of the long-term IEEF on the nutritional condition and immunological status of non-surgery patients receiving total enteral nutrition through the gastrosomy access route. A total of 30 patients were randomly assigned to two groups in the present study.

Methods: The two groups received total enteral nutrition either with IEEF (Group IEEF, n = 15) or with regular polymeric enteral formula (Group C, n = 15) for 12 weeks. Nutritional and immunological parameters were periodically examined.

Results: A significant increase in the serum levels of IGF-1 (similar to insulin) was noted in Group IEEF throughout the course of the study. Furthermore, serum levels of dihomo-γ-linoleic acid in Group IEEF were significantly decreased and those of eicosapentaenoic acid, docosahexaenoic acid and docosahexaenoic acid were significantly increased in Group IEEF. Serum concentrations of arginine and ornithine also increased significantly in Group IEEF. No significant difference was noted in the CD4/CD8 ratio and NK cell activity in Group IEEF, but the difference was significant in the B-cell fraction and the decrease in the T-cell fraction of peripheral lymphocytes were observed in Group IEEF. There was no infectious or non-infectious...
Infectious complications occurred during the study period in both groups, except for a significant increase in the serum levels of BUN and uric acid concentration.

**Conclusion:** The long-term use of IEEF is safely performed in non-surgery patients and results in which enables to cause a significant increase in the serum levels of IGF-I concentration-associated with an increase in humoral immunity.