Glutamine-supplemented total parenteral nutrition improves immunological status in anorectic patients.


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OBJECTIVE: Glutamine is an important substrate for critical cells of the immune system, in particular lymphocytes and macrophages, and it is considered a conditionally essential amino acid. Several studies have indicated that glutamine-enriched total parenteral nutrition improves immunologic status and shortens length of stay of critically ill patients. We investigated the effect of total parenteral nutrition supplemented with glutamine on the immune system in anorectic patients.

METHODS: Thirty-six anorectic patients were randomized to receive standard parenteral nutrition or parenteral nutrition supplemented with glutamine 0.18 g kg(-1) d(-1) for 20 d. To evaluate the immune system status, we determined serum levels of neopterin and insulin growth factor-1 and lymphocyte count at baseline and after 10 and 20 d from the beginning of the therapy.

RESULTS AND CONCLUSIONS: The results showed a significant increase of the serum levels of neopterin after 10 d of treatment with glutamine (26.44 +/- 3.08 versus 6.75 +/- 1.73 nmol/L, P < 0.001), thus proving a probable stimulating action carried out by glutamine on the immune system, as testified by the increase of lymphocytes.

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