

# Abstract

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## Total lymphocyte count and subpopulation lymphocyte counts in relation to dietary intake and nutritional status of peritoneal dialysis patients.

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**OBJECTIVE:** Dietary deficiency causes abnormalities in circulating lymphocyte counts. For the present paper, we evaluated correlations between total and subpopulation lymphocyte counts (TLC, SLCs) and parameters of nutrition in peritoneal dialysis (PD) patients.

**METHODS:** Studies were carried out in 55 patients treated with PD for 22.2 +/- 11.4 months. Parameters of nutritional status included total body mass, lean body mass (LBM), body mass index (BMI), and laboratory indices [total protein, albumin, iron, ferritin, and total iron binding capacity (TIBC)]. The SLCs were evaluated using flow cytometry.

**RESULTS:** Positive correlations were seen between TLC and dietary intake of niacin; TLC and CD8 and CD16+56 counts and energy delivered from protein; CD4 count and beta-carotene and monounsaturated fatty acids 17:1 intake; and CD19 count and potassium, copper, vitamin A, and beta-carotene intake. Anorexia negatively influenced CD19 count. Serum albumin showed correlations with CD4 and CD19 counts, and LBM with CD19 count. A higher CD19 count was connected with a higher red blood cell count, hemoglobin, and hematocrit. Correlations were observed between TIBC and TLC and CD3 and CD8 counts, and between serum Fe and TLC and CD3 and CD4 counts. Patients with a higher CD19 count showed a better clinical-laboratory score, especially less weakness. Patients with a higher CD4 count had less expressed insomnia.

**CONCLUSION:** Quantities of ingested vitamins and minerals influence lymphocyte counts in the peripheral blood of PD patients. Evaluation of TLC and SLCs is helpful in monitoring the effectiveness of nutrition in these patients.

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