Abstract

Introduction: The aim of this study was to assess non-microcellular lung cancer patients' nutritional status impact on psychomotor performance, muscle strength and functional activity. Material and methods: The study involved 60 consecutive patients admitted to the clinic for surgical treatment due to histologically verified non-microcellular lung cancer. The patients were divided, depending on the stage of weight loss, into two groups: relatively well-nourished - 29 patients and those with malnutrition - 31 patients. History, physical examination, anthropometric data, biochemical parameters as well as functional tests were carefully noted. Results: Patients qualified for particular groups differed significantly in age, $p < 0.002$. Mean values of albumin, transferrin and total protein for the well-nourished patients ranged within proper values. In the malnourished patients they were respectively: 34.05 ± 0.27 gil, 1.764 ± 0.27 gil, 68.90 ± 6.39 gil and the differences were statistically significant. Total loss of urea nitrogen was significantly higher in malnourished patients 13.32 ± 2.92 gil ($p < 0.005$). The average percentage weight loss in both groups differed significantly 0.111 ± 0.044 vs. 0.031 ± 0.028 at $p < 0.0005$. In the group of malnourished patients the right hand average strength was 26.52 ± 8.06 kg and the left one amounted to 25.35 ± 6.04 kg, the values were significantly lower than the results recorded in well-nourished patients: 34.93 ± 11.27 kg, 32.37 ± 11.72 kg, $P < 0.001$. The tapping test average time of the right hand was 19.24 ± 4.04 vs. 16.72 ± 3.06 and of the left one 19.69 ± 3.59 vs. 17.48 ± 2.79 kg and were significantly longer in patients suffering from malnutrition ($p < 0.01$). Simple reaction times for dominating hand were longer in the group of patients with malnutrition, for the visual stimulus 0.50 ± 0.08 s vs. 0.45 ± 0.087 s, ($p < 0.05$) and for auditory one 0.43 ± 0.08 vs. 0.39 ± 0.08 s (non significant). Conclusions: Malnutrition in the course of non-microcellular lung cancer significantly reduces psychomotor function assessed by reaction time to visual and acoustic stimuli as well as efficiency of the functional tests evaluated by tapping test and muscle strength measurement.

Keywords

Malnutrition, Lung cancer, Biochemical indices, Functional indices.