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ORAWAN PICHIITCHAIPITAK : PROTEIN-ENERGY AND CARNITINE
 STATUS IN PATIENTS WITH CARCINOMA OF THE LARYNX RECEIVING
 TWO DIFFERENT TYPES OF ENTERAL FORMULAS. THESIS ADVISORS :
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The purpose of this study is to evaluate 2 types of enteral formulas, i.e., Resource[™] and Sandosource HN[™] in terms of their effects on protein-energy and carnitine status in 19 patients with carcinoma of the larynx. Patients were divided into 2 groups according to the types of tube feeding formulas. Patients in both groups were rather homogenous in terms of gender, age, underlying disease, preoperative-energy status, and type of operation. All of them received nutritionally complete enteral formulas via nasogastric tube during postlaryngectomy. Group I consisted of 9 patients who received Resource[™] for 5-10 days whereas group II consisted of 10 patients who received Sandosource HN[™] (Novartis Nutrition, USA) for 6-10 days. The mean (\pm SEM) of daily intakes of energy, protein, fat, and carbohydrate in group I were 2003 \pm 28 kcal, 68.43 \pm 0.88 g, 68.43 \pm 0.88 g, and 273.59 \pm 14.42 g, respectively whereas the corresponding figures in group II were 2075 \pm 33 kcal, 111.34 \pm 1.81 g, 55.67 \pm 0.90 g, and 280.82 \pm 14.74 g.

The results show that under nearly isocaloric intakes in both groups and higher nitrogen intakes in group II than in group I, group II exhibited higher positive nitrogen balances, higher levels of serum total protein, albumin, transferrin, apo A-I, and apo B, and had better carnitine status than group I. No clinical adverse effects related to Resource[™] and Sandosource HN[™] were observed in this study. Laboratory evaluation also revealed that neither formula caused any adverse effects on hematological parameters and renal functions. The findings of significantly higher serum alkaline phosphatase (AP), aspartate aminotransferase (AST), alanine aminotransferase (ALT) and gamma-glutamyl transferase (GGT) levels in group II at D8-12 than at D0 and than in group I at D7-12. These findings were most likely due to higher nitrogen intake in group II during D8-12 than in group I during D7-12, evidenced by significantly positive relationships between nitrogen intakes and serum AP levels ($r = 0.651$, $p < 0.0001$) and serum GGT levels ($r = 0.562$, $p < 0.0001$).