The nutritional effect of early oral feeding following thoracolaparoscopic esophagectomy for esophageal cancer

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Objectives: Postoperative early oral feeding (EOF) in patients with thoracolaparoscopic esophagectomy (TLE) is feasible and safe. Whether the innovative feeding strategy meet calorie demand of patients after esophagectomy remained uncertain. This randomized controlled study aimed to identify the nutritional effect of EOF for patients underwent TLE.

Methods: From April 2014 to February 2015, 53 patients underwent TLE were enrolled in this study. All patients received resting expenditure energy measurement. The enrolled patients were randomly assigned to either EOF group or conventional enteral nutrition and supplemental parenteral nutrition (EP) group. In EOF group, patients started ingesting liquid food at will at postoperative day 1 (POD 1) and adjust according to tolerance. If the patient tolerated the liquid diet, the diet was changed to a soft-food diet. All diets were divided into at least six portions per day. And supplemental parenteral nutrition (PN) was given to meet half calorie demand according to their measured resting expenditure energy. In EP group, a routine of nil-by-mouth and enteral nutrition (EN) was administered for the first 7 postoperative days. The patients received isotonic saline by the catheter at 20 ml/h until the morning of POD 1. Nutrition was then commenced at 20 ml/h. The rate was increased by 20 ml/h each day if tolerated, up to 80 ml/h. Supplemental PN was given to meet full calorie demand according to their measured resting expenditure energy. Esophagography was performed at POD 7. Sips of water were allowed after confirming the absence of anastomosis leakage, and a full liquid diet was implemented on the following day and enteral infusion halted. Naso-intestinal feeding tube was removed before discharge. The patients’ body compositions were measured by bioelectrical impedance analysis before surgery and on the 7th postoperative day. Resting expenditure energy and blood biochemical examinations were followed daily postoperatively. Patients’ clinical features were collected and compared between the two groups.

Results: In contrast with EP group, patients in EOF group lose body weight (-0.83 ± 2.41 kg vs -0.71 ± 2.48 kg, p > 0.05), muscle mass (-0.44 ± 1.63 kg vs -0.37 ± 1.75 kg, p > 0.05) and skeletal muscle mass (-0.36 ± 0.91 kg vs -0.31 ± 1.09 kg, p > 0.05) 9 days after surgery compared with the values pre-operative. The nutritional effects were close between the two groups. No statistical differences were found in view of the blood biochemical examinations on day 1, 4, 9 after surgery between two groups.

Conclusions: Early oral feeding compared with conventional enteral nutrition and supplemental parenteral nutrition, which made equal calorie nutritional support for patients underwent thoracolaparoscopic esophagectomy, both the nutritional strategies had acceptable interfered with patients’ body weight and muscle mass.

References:

Topic: Critical Care