

Perioperative nutritional management team improves oral intake after esophagectomy

Background: Cancer patients often experience malnutrition. Particularly patients after esophagectomy for squamous cell carcinoma frequently suffered from malnutrition, because of reducing digestive space by reconstructions using the gastric pull-up operation or free jejunal transfers.

So, perioperative nutrition management is important. Recently, enteral nutrition is done from the early stage to prevent postoperative malnutrition. But, when enteral nutrition is prolonged, quality of life tends to decrease. Postoperative oral intake is a key factor to maintain or improve quality of life especially after esophagectomy.

The purpose of this study was to investigate whether perioperative nutritional management team (PERIO-N) could improve oral intake of esophageal cancer patients who undergo surgery.

Methods: 153 esophageal cancer inpatients underwent surgery were assigned into two groups in this historically controlled study. The PERIO-N group consisted of 101 patients who underwent surgery between April 2015 and December 2016 and had their nutrition managed by PERIO-N. The control group had 52 patients who underwent surgery between April 2014 and March 2015 without PERIO-N.

PERIO-N had done their nutritional management from a month before the surgery to the day until hospital discharge after surgery. Before their surgery, we promoted to do self-management for daily life (ex: record the meal contents, somatic symptom, bowel habit and body temperature) and then, to control the weight, and to chew well. After surgery, in order to prevent dumping symptoms, we taught them to eat slowly and chew. And we said to eat the frequent diet to keep the weight. We also taught which food is easily digestible food or indigestible food. And increased or decreased enteral nutrition according to oral intake and body condition.

Results: There were no significant differences in the demographic before surgery between the PERIO-N group and the control group.

After surgery, there were no significant differences in the length of hospital stay and incidence of complications (leakage, chylothorax, recurrent nerve paralysis). But, patients in the PERIO-N group were more likely to be able to orally intake food 1.5 times higher than the control group (52.2% vs 32.7%; $p =$

0.036). In addition, patients in the PERIO-N group discharged home in 1.5 times higher rate than the control group (55.4% vs 36.5%; p = 0.026).

Conclusions: The use of a perioperative nutritional management team was associated with the higher successful rate of oral intake after esophagectomy. The use of such a team might contribute to an improvement in the quality of life for surgical patients with esophageal cancer. Further prospective and interventional studies will be necessary to confirm our results.

		The PERIO-N Group	The Control Group	p-value
BEFORE	Gender (Males : Females)	80:21	42:10	n.s
	Ages (years)	64.2±8.6	65.0±8.1	n.s
	Body Mass Index (kg/m ²)	21.9±2.8	22.3±3.4	n.s
	Serum Albumin (g/dl)	3.9±0.4	4.0±0.4	n.s
	Stage (0 : 1 : 2 : 3 : 4)	3:38:29:32:10	0:23:14:14:1	n.s
AFTER	Length of Hospital Stay (days)	28.6±13.6	28.6±17.6	n.s
	Leakage	8.9%	15.4%	n.s
	Chylothrax	5.0%	0%	n.s
	Recurrent nerve paralysis	19.8%	11.5%	n.s
	Orally intake food	50.4%	32.7%	p=0.036
	Discharged home	55.4%	36.5%	p=0.026