

THE IMPACT OF NUTRITION INTERVENTION ON HIGH NUTRITION RISK COLORECTAL CANCER PATIENTS

Hsiao-Wei Huang¹, Mei-Fang Yang², Gee-Chen Chang^{3,4}

¹Comprehensive Cancer Center, Taichung Veterans General Hospital, Taiwan

²Department of Food and Nutrition, Taichung Veterans General Hospital, Taiwan

³Faculty of Medicine, School of Medicine, National Yang-Ming University, Taipei, Taiwan

⁴Division of Chest Medicine, Department of Internal Medicine, Taichung Veterans General Hospital, Taichung, Taiwan



BACKGROUND

Colorectal cancer patients often have pain, bloating, diarrhea, constipation and other side-effects after surgery or undergoing radiotherapy and/or chemotherapy, which affect food consumption, resulting in malnutrition and weight loss.

OBJECTIVE

The purpose of this study was to investigate the impact of nutrition intervention on dietary intake, body weight, and nutritional status in colorectal cancer patients with high risk nutritional status receiving surgery or radiotherapy and/or chemotherapy.

METHOD

We analyzed retrospectively the clinical documentation of 37 inpatients with new case of colorectal cancer at high nutrition risk (PG-SGA score ≥ 15) receiving surgery or radiotherapy and/or chemotherapy. Patients were assessed before, and 1 months after nutrition intervention by a dietitian.

RESULTS

After nutrition intervention, there was significant increase was noted in energy intake (mean \pm SD, 730.5 \pm 449.5 kcal (pre) vs. 1326.3 \pm 348.6 kcal (post), $p < 0.001$), albumin (3.2 \pm 0.5 g/dl vs. 3.4 \pm 0.5 g/dl, $p = 0.013$), and hemoglobin (10.7 \pm 1.7 g/dl vs. 11.2 \pm 1.5 g/dl, $p = 0.013$). But, no difference in body weight was seen (56.0 \pm 9.8 kg vs. 55.9 \pm 9.6 kg, $p = 0.59$).

CONCLUSION

Nutrition intervention in high nutrition risk colorectal cancer patients receiving surgery or radiotherapy and/or chemotherapy resulted in improvement of nutritional status and in weight loss prevention.

Table 2. Anthropometric measures of 37 inpatients with colorectal cancer

		n	mean \pm SD
Height (m)	(M)	27	1.65 \pm 0.01
	(F)	10	1.57 \pm 0.01
Weight (kg)	(M)	27	56.3 \pm 10.4
	(F)	10	55.4 \pm 8.5
BMI (kg/m ²)		37	21.2 \pm 3.7

Values are represented as mean \pm SD or n.

BMI = body mass index

Table 1. Demographic characteristics of 37 inpatients with colorectal cancer

	n	
Gender	M / F	27 / 10
>65 yrs old		16
Eating patterns		
normal food but less than normal amount		6
little solid food		11
only liquids		11
only nutritional supplements		0
very little of anything		4
only tube feeding or only nutrition by vein		5
Therapy		
OP		29
OP+CCRT		5
OP+C/T		2
C/T		1
Activities and Function		
I		0
II		2
III		12
IV		14
V		9
Nutrition impact symptoms		
No problems eating		0
No appetite		8
Nausea		2
Vomiting		4
Constipation		0
Diarrhea		8
Mouth sores		0
Dry mouth		0
Pain		20
Things taste funny or have no taste		1
Smells bother me		0
Problems swallowing		1
feel full quickly		10
Other		2

Values are represented as n.

I: normal with no limitations, II: not my normal self, but able to be up and about with fairly normal activities, III: not feeling up to most things, but in bed or chair less than half the day, IV: able to do little activity and most of the day in bed or chair, V: pretty much bedridden, rarely out of bed

Table 3. Comparison of body weight, energy intake, albumin, hemoglobin between pre- and post-test

		pre-test	post-test	<i>p</i>
		mean \pm SD	mean \pm SD	
Body weight	(kg)	56.0 \pm 9.8	55.9 \pm 9.6	0.590
Energy intake	(kcal)	730.5 \pm 449.5	1326.3 \pm 348.6	0.000*
Albumin	(g/dl)	3.2 \pm 0.5	3.4 \pm 0.5	0.013*
Hemoglobin	(g/dl)	10.7 \pm 1.7	11.2 \pm 1.5	0.013*

Values are represented as mean \pm SD.

*Significantly difference between pre- and post-test ($P < 0.05$)