

암재활

발표일시 및 장소 : 10 월 27 일(토) 14:20-14:30 Room E(5F)

OP4-2-3

Hospital-based and home-based exercise in patients with SAN injury after head & neck cancer surgery

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Objectives

The purpose of this study was to compare the effects of hospital-based and home-based exercise programs on quality of life (QOL) and neck and shoulder function of patients who underwent head and neck cancer (HNC) surgery.

Methods

This clinical trial included 40 patients with neck and shoulder dysfunction after HNC. The exercise program included range of motion (ROM) exercises, massage, stretching, and strengthening exercises. Twenty patients who were assigned to the hospital-based exercise group performed physical therapy for 40 minutes three times a week for four weeks., and the remaining 20 patients were assigned to the home-based group. The European Organization for Research and Treatment of Cancer Core Quality of Life Questionnaire (EORTC QLQ-C30), the EORTC Head and Neck Questionnaire (EORTC QLQ-H&N), the Neck and Shoulder Disability Index (NDI), ROM, and numeric rating scale (NRS) were assessed before and after the exercise program. The program consisted of a 10-minute ROM to the neck and shoulder, a 10-minute massage, and 15 minutes of progressive resistance exercises, followed by a five-minute stretching exercise.

Results

There were statistically significant differences in the changes of neck and shoulder disability index ($p < .05$). Additionally, there were significant differences in neck extension and rotation ROM and NRS in the hospital-based group compared with home-based group ($p < .05$). QOL was not significantly different between the two groups.

Conclusions

Home-based exercise group was effective for improving QOL, shoulder function, and pain relief. Hospital-based exercise had better effects on physical function of the neck and shoulder and reduced pain.

Table1. Baseline demographic and clinical characteristics of the patients

Characteristic	Hospital group (n=20)	Home group (n=20)	p-value
Age (years), mean \pm SD	56.2 \pm 15.0	49.6 \pm 13.0	.150
BMI	23.6 \pm 3.2	23.7 \pm 2.8	.904
Over 25	5 (25.0)	6 (30.0)	
Under 25	15 (75.0)	14 (70.0)	
Sex			.757
Female	11 (55.0)	12 (60.0)	
Male	9 (45.0)	8 (40.0)	
Education level			.206
High school education	6 (30.0)	10 (50.0)	
University education	14 (70.0)	10 (50.0)	
Marital status			.300
Married	16 (80.0)	13 (65.0)	
Single	4 (20.0)	7 (35.0)	
Stage of cancer			.218
0	1 (5.0)		
I	8 (40.0)	5 (25.0)	
II	2 (10.0)	2 (10.0)	
III	8 (40.0)	13 (65.0)	
IV	1 (5.0)		
Type of neck dissection			.757
MRND	9 (45.0)	8 (40.0)	
SND	11 (55.0)	12 (60.0)	
Staging of node			
N0	3(15.0)	2(10.0)	
N1	3(15.0)	3(15.0)	
N1b	8(40.0)	9(45.0)	
N2b	5(25.0)	4(20.0)	
N2c	0(0.0)	1(5.0)	
unknown	1(5.0)	1(5.0)	
Diagnosis			.211
Thyroidgland	8 (40.0)	10 (50.0)	
Other &unspec. part of tongue	5 (25.0)	7 (35.0)	
Parotid gland	-	1 (5.0)	
Base of tongue	-	1 (5.0)	
Larynx &hypopharynx	6(30.0)	1 (5.0)	
Pyriform sinus	1 (5.0)	-	
Lymphedema			.731
Yes	14 (70.0)	15 (75.0)	
No	6 (30.0)	5 (25.0)	
Radiotherapy			.324
Yes	12 (60.0)	15 (75.0)	
No	8 (40.0)	5 (25.0)	
Analgesic			.643
Yes	17 (85.0)	18 (90.0)	
No	3 (15.0)	2 (10.0)	

.Ca: Cancer.

Table2. Comparison of the mean values obtained for EORTC C-30 and H&N35 between the hospital-based exercise group and the home-based exercise group

	Hospital group		Home group		P value
	Pre	Post	Pre	Post	
EORTC QLQ-C30 ^a					
Global health status/QOL	52.3±18.3	72.9±21.9*	44.1±21.4	52.4±27.8*	.083
Functional Scales					
Physical functioning	66.3±11.9	81.3±14.4*	63.3±15.9	66.9±22.7	.051
Role functioning	68.3±20.8	74.9±18.3	54.1±22.8	61.6±23.0	.900
Emotional functioning	74.2±17.2	76.2±18.3	69.4±23.7	71.2±23.4	.969
Cognitive functioning	65.8±16.6	70.8±18.6	58.3±26.2	63.3±24.3	.100
Social functioning	69.9±27.8	74.1±22.6	66.6±31.0	68.3±26.9	.767
Symptom Scales					
Fatigue	40.5±22.6	29.9±19.7	48.6±24.1	43.8±23.4	.447
Nausea and vomiting	14.1±27.1	5.7±15.5	12.4±22.2	13.3±25.7	.336
Pain	33.3±22.2	19.1±12.4*	37.4±21.5	36.6±25.7	.093
Dyspnea	24.9±26.2	9.9±15.6.*	26.6±23.1	23.3±26.7	.162
EORTC QLQ-H&N35 ^b					
Pain	22.0±24.8	14.9±13.9	22.5±22.5	25.8±24.9	.127
Swallowing	24.9±16.2	20.4±19.7	22.0±21.1	26.6±21.0	.060
Sense problem	16.8±21.6	19.5±32.8	25.8±24.4	24.9±35.2	.724
Speech problem	36.1±21.8	31.1±27.1	34.4±22.1	31.6±25.3	.783
Social contact	33.3±27.9	24.5±19.1	37.4±33.7	34.5±24.9	.504

Quality of life questionnaire-cancer^a, Quality of life questionnaire-head & neck^b.

*an alpha of 0.05 is used as the cutoff for significance (p<.05)

Table3. Comparison of the mean values obtained for NDI, ROM, NRS between the hospital-based exercise group and the home-based exercise group

	Hospital group		Home group		P value
Neck and Shoulder Disability Index	22.1±5.4	14.8±2.3*	22.3±6.8	20.1±4.7	.006*
ROM					
Neck extension	21.9±7.5	40.7±5.6*	21.5±7.7	33.0±6.5*	.007*
Neck rotation (sum)	40.7±17.8	109.2±18.7*	45.0±16.5	84.7±21.4*	.001*
Neck lateral flexion (sum)	28.7±8.2	61.0±19.7*	30.0±9.7	52.5±18.2*	.054
Shoulder flexion	145.2±34.8	180.0±.0*	144.2±34.5	178.2±7.8*	.946
Shoulder abduction	121.0±33.2	180.0±.0*	129.2±29.4	174.7±14.6*	.215
NRS	5.6±1.0	2.6±.7*	5.5±1.5	4.6±.9*	.001*

*an alpha of 0.05 is used as the cutoff for significance (p<.05)