

암재활

발표일시 및 장소: 10 월 19 일(토) 14:10-14:20 Room D(5F)

OP4-2-2

Home based IPC device : Analysis of efficiency, safety, satisfaction with leg lymphedema patients

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Purpose

We conducted a prospective study to investigate the efficacy, satisfaction, and safety of a newly developed home based intermittent pneumatic compression (IPC) device during maintenance phase of patients with lower extremity lymphedema. This device has unique mode (SEQT mode) that gently facilitates lymphatic draining of proximal extremity.

Methods & Materials

The study involved 24 primary/secondary leg lymphedema patients in maintenance phase who underwent IPC and conventional compression therapy for 4 weeks at home. The IPC device was programmed to apply SEQT (proximal) mode for 30 minutes, and sequential basic mode (GRAD + DRAN mode, proximal in distal) for 30 minutes. The participants were guided to used this 1 hour course of pneumatic compression more than twice a day for 4 weeks. We assessed the volume measurement, Lymph-ICF-LL and satisfaction before, immediately after, and one month after IPC application. Repeated measures analysis of variance was used for statistical analysis between each time point.

Results

The inter-limb difference of volumed showed no statistical significance between each time point. Dividing the participants into two group upon special event, such as sudden weight gain, sudden intensive exercise, the group(n=18) without special event presented trend of decreased total volume difference after 4 weeks of intervention which slightly increased 1 month post-intervention. In specific, the proximal volume difference decreased not only after intervention but also 1 month later, without statistical significance. In terms of Lymph-ICF-LL, significant decline of total score was presented at each time point, indicating improved lymphedema-related symptoms even without objective volume change. All participants were highly satisfied with 4 week application of the new home based IPC device.

Conclusion

This study demonstrated that the new home-based IPC device with novel proximal lymphatic drainage mode is effective and safe in patients with leg limb lymphedema during maintenance phase.

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Table 1 General characteristics

Number of patients	24
Sex	
Female	23
Male	1
Age(years)	
Mean±SD(Min-max)	56±12.15(18-70)
Height	
Mean±SD(Min-max)	160.62±6.13(167-148)
CDPT	
Mean±SD(Min-max)	3.91±3.84(0-17)
Weight(kg)	
Mean±SD(Min-max)	Pre=60.63±8.74(52.7-85) Post=61.26±8.98(51-85) 1M=61.69±9.21(48.8-85)
BMI	
Mean±SD(Min-max)	Pre=23.49±2.98(19.2-30.1) Post=23.75±3.19(19-30.1) 1M=23.95±3.24(19.1-30.1)
Duration of lymphedema(year)	
Mean±SD(Min-max)	9.16±5.2(2-22)
Hx. CT(%)	10(41.67)
Hx. RT(%)	8(33.33)
Primary lymphedema(%)	2(8.33)
Secondary lymphedema(%)	22(91.67)
Initial inter-limb volume Difference	
Number(%)	5~10% = 1(4.17) 10~20% = 12(50.00) >20% = 11(45.83)
Cancer type(%)	
Cervical cancer	11(50)
Ovarian cancer	4(18.18)
Endometrial cancer	4(18.18)
Cervix cancer	1(4.55)
Melanoma	1(4.55)
Pallopan tube cancer	1(4.55)

Abbreviations : SD, standard deviation; CDPT, complex decongestive physical therapy; BMI, body mass index; Hx, history; CT, Chemotherapy; RT, Radiotherapy

Table 2 Total Score on the Lymph-ICF-LL and the Scores on the 5 Domains (N=24)

Lymph-ICF-LL Score	Means (SD)			F (df), p value
	Pre-IPC	Post-IPC	1-month follow-up	
Total	98.96 (37.38)a	55.75 (28.03)a	64.92 (31.88)a	22.80 (1.357), <0.001
Physical function	12.83 (8.08)a	6.17 (5.48)a	8.21 (7.43)a	11.27 (1.473), 0.001
Mental function	29.96 (15.50)a	15.29 (16.23)a	18.83 (14.52)a	19.06 (1.463), <0.001
General tasks/household activities	11.20 (7.40)a	4.71 (3.43)b	5.00 (3.66)b	18.41 (1.454), <0.001
Mobility	24.96 (13.05)a	15.67 (8.30)b	18.46 (10.54)b	8.52 (1.656), 0.002
Life domains/social life	20.00 (7.31)a	13.92 (7.22)b	14.42 (7.26)b	9.20 (1.285), 0.003

IPC, intermittent pneumatic compression

^a p values are for overall differences between time points; letters indicate pairwise comparisons, with "a" being significantly different (p<.05) than "b" within each row; means with the same letter are not significantly different from each point

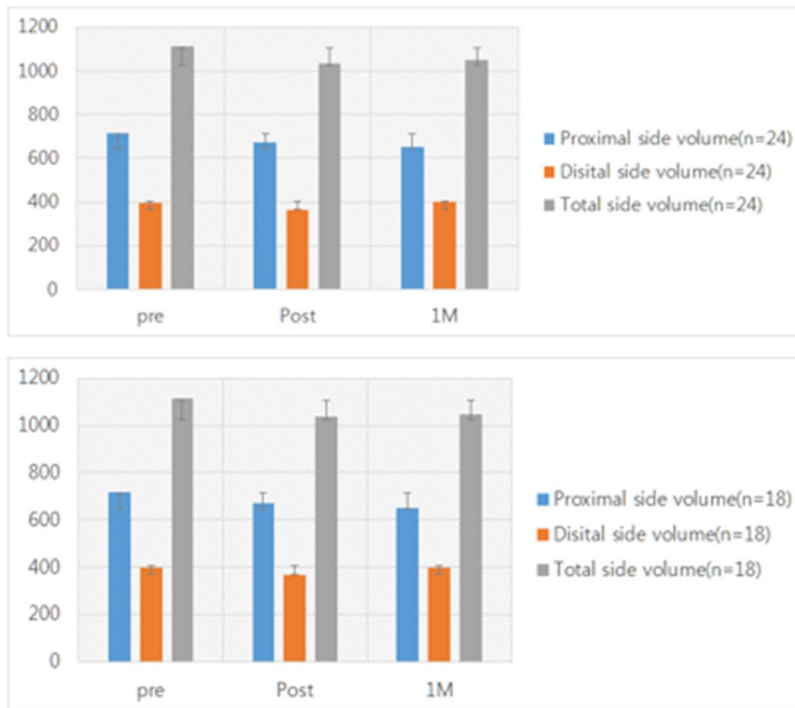


Figure 1 . Boxplots for displaying limb volume before, immediately after, and one month after IPC application.