

PELVIC FLOOR SUPPORTIVE UNDERWEAR ENHANCES ALLEVIATING EFFECT OF PELVIC FLOOR MUSCLE TRAINING ON LOWER URINARY TRACT SYMPTOMS IN PELVIC ORGAN PROLAPSE PATIENTS



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Introduction

Pelvic organ prolapse (POP) occasionally causes bothersome LUTS. To treat the urinary disturbance caused by POP, we developed a novel underwear supportive for frailty functioning pelvic floor (Adam medical LCC., Tokyo, Japan) (Fig1) .

Its effectiveness in correcting anatomical position of the urinary bladder has been objectively demonstrated by urethrocytography in the POP patients at a standing position (Fig2, REF1).

Fig1 new pelvic floor supportive underwear

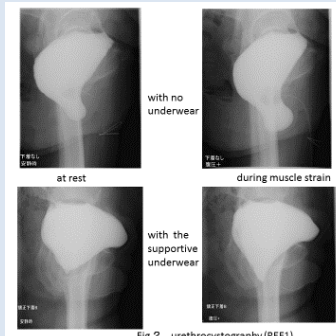
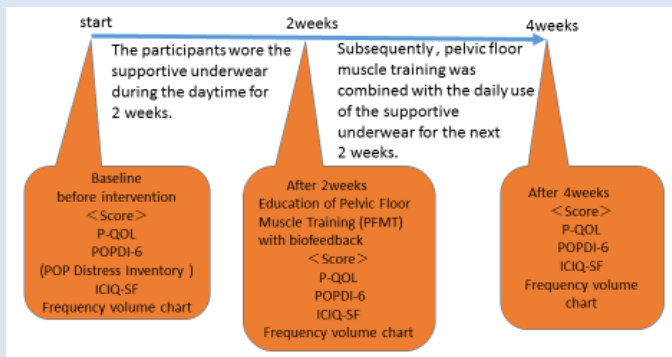


Fig.2 urethrocytography (REF1)

The purpose of this study was to examine if the pelvic floor supportive underwear alleviates the LUTS in subjective measurement of POP patients.

Materials and Methods

This was a prospective intervention study. Female participants who were diagnosed as cystocele at Stage 2 to 4 were recruited at an outpatient clinic of the university hospital.



Statistical analysis was performed using a SPSS with Friedman test or one-way ANOVA, if applicable. All values are expressed as mean \pm SD. For all analyses, $p < 0.05$ was considered significant.

Results

Twenty-six participants were POP patients of average age at 69.8 year-old ranging from 54 to 88 year-old. Of these, 23 participants successfully completed the whole course of the study. Three patients who dropped out had mild dementia so that they were unable to execute daily routines including PFMT. Compared with the baseline (i.e., before intervention), the supportive underwear alone improved P-QoL Physical limitations score and POPDI-6 score; and a combination of the supportive underwear and PFMT further improved the scores (Table1) . The intervention of the supportive underwear reduced the number of urination per day from 11 ± 2.8 times to 8.4 ± 3.5 times. The supportive underwear increased maximum urination volume by 21% (from 306 ± 113 ml in the baseline to 371 ± 154 ml by the supportive underwear).

Table.1 Mean of P-QoL domains score , POPDI-6 score and ICIQ-SF (n23)

	Baseline	After2weeks	After4weeks	P-value
P-QoL general health perception	40.2	38.0	39.1	0.866 ^a
P-QoL Prolapse impact	58.0	53.6	50.7	0.328 ^a
P-QoL Role limitations	39.1	33.3	27.5	0.214 ^a
P-QoL Physical limitations	53.6	37.7	31.9	0.002 ^b
P-QoL Social limitations	25.1	23.7	14.5	0.014 ^a
P-QoL personal relationships	7.4	11.1	7.8	0.846 ^a
P-QoL Emotions	46.9	41.5	37.7	0.159 ^b
P-QoL Sleep/Energy	29.7	19.6	21.0	0.055 ^a
P-QoL severity measures	35.9	35.1	30.1	0.090 ^b
POPDI-6 total score	32.2	25.9	23.1	0.028 ^b
ICIQ-SF	5.6	5.0	4.0	0.258 ^a

Baseline: before intervention
After 2weeks: the supportive underwear alone
After 4weeks: combination of the supportive underwear and PFMT
a= Friedman test, b= one-way ANOVA * = statistically significant.

The supportive underwear alone improved overall scores of P-QoL and POPDI-6 and decreased micturition frequency, compared with those of the baseline. The supportive underwear in combination with PFMT further ameliorated the outcome measured by P-QoL and POPDI-6, compared with the supportive underwear alone.

Conclusions

This study demonstrated that the novel pelvic floor supportive underwear is effective not only in correcting anatomical position of the urinary bladder (as shown in the previous study) but also in alleviating the LUTS in the POP patient. A combination of the supportive underwear and pelvic floor muscle training leads to better outcome in treatment of POP symptoms. Thus, the pelvic floor supportive underwear is an easy and safe conservative option for treatment of the disease.

References

1. Taniguchi T, Kobayashi Y, Kobayashi H, et al: Evaluation of a novel underwear which supports the pelvic floor in pelvic organ prolapse patients, ICS2016.

Disclosures Statement
Research funded by
Adam medical LCC.,
Tokyo, Japan