



# A study on the effects of a heating pad on anxiety, pain and stress during urodynamic study in women with stress urinary incontinence

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## BACKGROUNDS

- ◆ Although it is generally well tolerated, some patients regard urodynamic study (UDS) as an unpleasant and painful procedure.

## OBJECTIVES

- ◆ To evaluate the effect of a heating pad on pain and anxiety, distress during UDS in the female patients with stress urinary incontinence (SUI).

## MATERIALS & METHODS

- ◆ A prospective randomized study (with random allocation table)
- ◆ Between May 2015 and October 2015
- ◆ 74 female SUI patients who underwent UDS randomized to either the heating pad (n = 37) or control (n = 37) group.
- ◆ In experimental group a heating pad was applied on the patient's lower back side during UDS.

- ◆ After UDS, all subjects completed the State-Trait Anxiety Inventory (STAI) form and assessed their degree of pain, distress by the visual analog scale (VAS, 0 – 10).

## RESULTS

Parameter	Heating pad (n=37)	Control (n=37)	p-value
<b>Demographics</b>			
Age (yr)	56.8±12.2	54.1±10.4	0.298
Body weight (kg)	59.2±10.0	58.8±9.8	0.861
Duration of procedure (min)	55.5±7.7	55.9±7.6	0.821
<b>Pre-procedural parameters</b>			
Systolic blood pressure (mmHg)	127.0±15.1	120.8±15.5	0.085
Diastolic blood pressure (mmHg)	80.5±11.8	78.1±9.4	0.329
Pulse rate (beats/min)	82.9±13.1	80.7±13.8	0.481
STAI	48.1±11.2	47.9±9.9	0.930
<b>Post-procedural parameters</b>			
Systolic blood pressure (mmHg)	130.0±18.1	130.0±18.4	1.000
Diastolic blood pressure (mmHg)	79.2±12.3	84.1±10.1	0.068
Pulse rate (beats/min)	76.2±12.0	76.8±9.9	0.817
Pain (VAS)	2.7±1.5	4.0±1.6	<b>0.000*</b>
Distress (VAS)	3.0±1.5	4.7±2.0	<b>0.000*</b>
STAI	30.9±7.5	42.5±10.1	<b>0.000*</b>
STAI (δ)	17.2±8.9	5.4±10.0	<b>0.000*</b>

Table 1. Baseline characteristics and pain, anxiety scores in female stress urinary incontinence patients according to applying a heating pad during urodynamic study.

- ◆ Mean age, procedure duration, pre and post-procedural pulse rate, systolic, diastolic blood pressure were statistically similar between the experimental and control group.
- ◆ The mean anxiety level (STAI) was significantly lower in the heating pad group than in the control group (p < 0.001), and anxiety difference levels with the STAI (δ) in experimental group and control group differed significantly (p < 0.001).
- ◆ The heating pad group showed significantly lower pain, distress score (VAS) (p < 0.001, p < 0.001, respectively) compared with control group.

## CONCLUSIONS

- ◆ Applying a heating pad on the back of the female patients with SUI during UDS is a simple, economical, and effective means.
- ◆ A heating pad enhances the patient's comfort and decreases the feelings of anxiety, pain and distress.

### <Schema of the study>

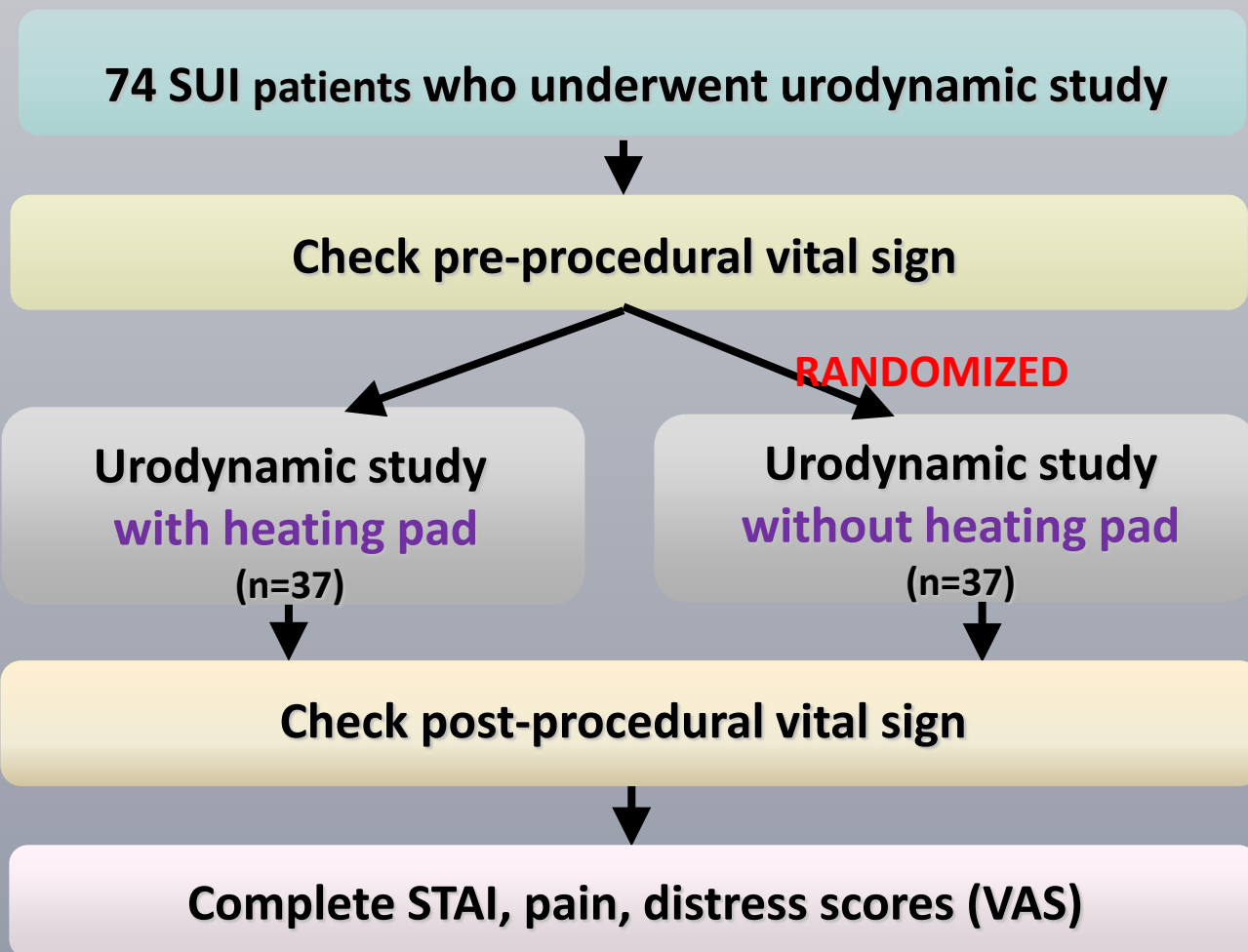


Figure 1. State-Trait Anxiety Inventory (STAI) form and assessed form of the degree of pain, anxiety, and distress by VAS.