

## ANDROGEN DEFICIENCY AND LUTS IN POSTMENOPAUSAL WOMEN: THE BENEFIT OF ANDROGEN REPLACEMENT.

### Hypothesis / aims of study

Hypothesis / aims of study: There are studies explaining the role of testosterone in the urogenital system and showing the benefit of testosterone replacement on LUTS in men [1]. The syndrome of androgen deficiency in postmenopausal women is described [2] and may also have a negative impact on LUTS. The aim of the study was to investigate the impact of androgen replacement therapy on LUTS in women.

### Study design, materials and methods

The prospective controlled study included 36 postmenopausal women receiving the classic hormone replacement therapy (HRT) (estradiol 1 mg and didrogestosterone 5 mg combination) therapy aged 49-67 with LUTS (urgency and nocturia) and clinically (decreased libido) and laboratory (total testosterone <0,69 nmol/L) proven diagnosis of androgen deficiency. The severity of LUTS was assessed with Barlow scale [3]. Patients were divided into 2 groups: 26 women in addition to classic HRT received androgen replacement with oral testosterone undecanoate (TU) 40 mg daily during 6 months and 10 women were the control group (only classic HRT). Statistical analysis was done with STATISTICA (StatSoft Inc. USA, version 6.0) software. Wilcoxon matched pairs test was used to compare two dependent samples.

### Results

The table presents the changes in severity of LUTS in the treatment group (n=26). All changes were statistically significant ( $p < 0.05$ ) versus baseline state.

Barlow severity score	Before treatment (number of patients)	After 3 months TU treatment (number of patients)	After 6 months TU treatment (number of patients)
1-2 (minimal symptoms with recurrent discomfort)	11	6	4
3-4 (moderate and moderate-to-severe symptoms)	9	5	4
5 (severe symptoms with persistent discomfort)	6	0	0

### Interpretation of results

In the treatment group (classic HRT plus TU) there was a statistically significant improvement in LUTS severity seen after 3 and 6 weeks of androgen replacement. All patients in the treatment group reported the improvement of libido. In the control group (classic HRT), no statistically significant changes were seen.

### Concluding message

Androgen replacement being added to classic HRT has a positive effect on LUTS and libido in postmenopausal androgen-deficient women. The potential explanation mechanisms of testosterone effect in the female urinary system could be improvement in nitric oxide bioavailability (this process is androgen-dependent) and increasing the muscle tone of pelvic organs.

### References

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2. Mathur R, Braunstein GD. Androgen deficiency and therapy in women. *Curr Opin Endocrinol Diabetes Obes.* 2010 Aug;17(4):342-9.
3. Barlow D.H., Samsioe G., van Geelen IM. A study of European women experience of the problems of urogenital aging and its management. *Maturitas*, 1997, 27 (3): 239-47

### Disclosures

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