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CLINICAL VALUE OF URINARY EXCRETION OF PROSTAGLANDINS E₂, F_{2α} AND C-REACTIVE PROTEIN (CRP) IN WOMEN WITH IDIOPATHIC DETRUSOR OVERACTIVITY.

Hypothesis / aims of study

The purpose of this study is to determine the urinary excretion of the PCR and prostaglandins E₂ and F_{2α} in women with idiopathic detrusor overactivity in order to identify the potential value of these substances as a noninvasive method in evaluating women with symptoms of overactive bladder.

Study design, materials and methods

Prospective study with a total of 43 women with urodynamic diagnosis of idiopathic detrusor overactivity (IDO) and 31 control patients without clinical overactive bladder normal urodynamic study group. Urine samples from 74 patients were collected and determined by ELISA PGE₂ levels (Arbor Assays®), PGF_{2α} (Enzo Life Sciences®) and PCR. The results are normalized by the urinary creatinine concentration.

Levels of marker/Cr between the study group (overactive detrusor) and the control group were compared.

The study group was treated with solifenacin 10 mg/day. Markers were determined in urine at 30 and 90 days to evaluate the influence of treatment on the levels of prostaglandins.

Results

CRP levels detected in urine in all cases and controls were very low (<0.08 mg/L) with no differences between the two groups. Higher average levels of PGE₂/Cr (2925 vs 2632 pg/mgCr) and PGF_{2α}/Cr (2178 vs 1837 pg/mgCr) were observed in the group of patients with overactive detrusor respect to controls, but did not reach statistical significance (p> 0,05) (Table 1).

	Control (n=31)	Group IDO (n=43)	Group	p
PGE ₂ (pg/mgCr)	2632,29±2101,38	2925,92±2813,05		0,62
PGF _{2α} (pg/mgCr)	1837,90±1216,84	2178,64±1635,42		0,30
PCR (mg/L)	<0,08	<0,08		>0,05

Table 1.

Treatment with solifenacin 10 mg/day significantly decreased PGE₂/Cr levels at 90 days (p= 0.01). No changes were observed in the urinary levels of PGF_{2α} with anticholinergic therapy (Table 2).

Table 2.

	Baseline	Solifenacina 10mg/d x 90 d	p	n
PGE ₂ (pg/mgCr)	3045,41±2991,72	1660,15±1232,72	0,01*	25
PGF _{2α} (pg/mgCr)	2056,66±1584,76	2074,32±1192,70	0,95	25

Interpretation of results

Treatment with solifenacin 10 mg/day significantly decreases the levels of PGE₂ in the urine of patients with IDO, so this molecule could be involved in the pathophysiology of overactive bladder and may be useful as a biomarker in monitoring response to treatment. The PCR and PGF_{2α} have not demonstrated clinical value for this condition.

Concluding message

According to our results, PGE₂ may have a role in monitoring response to anticholinergic treatment but more studies with a larger number of patients are needed to confirm this observation.

Disclosures

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