526

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NEUROPHYSIOLOGICAL EVALUATION OF SYMPATHETIC ACTIVITY IN PATIENTS WITH LOWER URINARY TRACT SYMPTOMS AND SEXUAL DYSFUNCTION DUE TO BENIGN PROSTATE HYPERPLASIA

Hypothesis / aims of study
Incidence of lower urinary tract symptoms (LUTS) due to benign prostate hyperplasia (BPH) increases with age and is commonly associated with sexual dysfunction. One of the hypothesis for the explanation of the common pathophysiology of development of BPH/LUTS and erectile dysfunction (ED) is increased autonomic hyperactivity or increased sympathetic tonus. In the present study, we aimed to examine sympathetic autonomic activity in patients with BPH/LUTS and erectile dysfunction through an objective neurophysiological test which is sympathetic skin response (SSR).

Study design, materials and methods
Thirty-one patients presented to outpatient clinics with LUTS due to BPH and 20 subjects with similar demographic characterictics but without LUTS were included into the study. All patients were evaluated by hand and genital SSR measurements and SSR latency and amplitude levels were compared between two groups. Patients in both groups with ED were evaluated by International Index of Erectile Function (IIEF) scores. SSR measurements in all patients were recorded and levels were compared between patients with and without ED. Patients with LUTS due to BPH were treated by alfuzosin (10 mg/day) and hand/genital SSR measurements were repeated after 45 days of alfuzosin treatment. Sympathetic activity measured by hand/genital SSRs initially were compared to post-treatment values of SSR levels in each group.

Results
Patients with LUTS due to BPH (n=31) had significantly lower amplitudes of hand and genital SSR latencymeasurements, whereas hand amplitudes were found to be increased compared to patients in control group (n=20). Hand and genital area latencies were significantly shorter in patients with ED in BPH/LUTS group when compared to control patients without ED. Hand and genital area latency comparisons before and after alfuzosin treatment revealed significantly increased latency and significantly decreased amplitude meausurements after treatment.

Interpretation of results
Significantly decreased latency periods and increased amplitudes in men with BPH/LUTS and ED showed increased sympathetic activity in these men. Thus, this neurophysiological measurement of autonomic hyperactivity may point a common pathophysiological pathway in the development of both of these pathologies. Significantly prolonged latency periods and decreased amplitude levels after alfuzosin treatment in men with BPH/LUTS and related ED revealed a pathophysiological role of preventing the autonomic hyperactivity by this treatment.

Concluding message
Autonomic hyperactivity is proposed to be one of the contributing factors in the common pathophysiology of BPH/LUTS and ED development. Detailed examination of the underlying mechanisms in the development of BPH/LUTS and concomitant ED will further contribute to development of better diagnostic methods and treatment alternatives.

Disclosures
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