

SPECTRAL ANALYSIS OF HEART RATE VARIABILITY IN THE ASSESSMENT OF AUTONOMIC DYSFUNCTION IN PATIENTS WITH URINARY INCONTINENCE

Hypothesis / aims of study

To determine and compare autonomic dysfunction in patients with stress urinary incontinence and patients with mixed urinary incontinence, we measured and compared parameters of heart rate variability between these two groups and a healthy normal group.

Study design, materials and methods

Electrocardiographic signals were obtained from 40 patients with stress urinary incontinence (mean age, 47.6 ± 8.67 years old), 30 patients with mixed incontinence (mean age, 47.7 ± 10.01 years old) and 120 healthy women (mean age, 45.2 ± 6.93 years old) in resting state. The parameters of HRV were compared.

Results

The results of parameters of HRV between groups (mean±standard deviation)

	SDNN	RMSSD	HR	TP	VLF	LF	HF
SUI	33±14.1	26±13.3	73±9.6	972±900	595±650.9	200±180.5	178±136.3
MUI	39±24.1	249±798.1	73±9.5	1344±1666.8	785±1225.5	463±619.2	237±258.4
Control	36±16.3	31±17.1	70±9.7	1070±849.4	557±487.9	243±199.2	270±336.6
Sig. (ANOVA)	0.241	0.004	0.166	0.305	0.280	0.001	0.225

SUI; stress urinary incontinence, MUI; mixed urinary incontinence, HR; heart rate, SDNN; the standard deviation of the N–N interval, RMSSD; the square root of the mean squared differences of successive N–N intervals, TD; total power, VLF; very low frequency, LF; low frequency, HF; high frequency

Interpretation of results

In the patients with mixed urinary incontinence, the means of RMSSD (mean squared differences of successive NN intervals) and low frequency (LF) were higher than those in stress urinary incontinence group and healthy control ($p < 0.05$). But there was no significant difference of HRV parameters between stress urinary incontinence group and normal control group.

Concluding message

The values of RMSSD and LF in patients with mixed urinary incontinence were higher than those in stress urinary incontinence and healthy control groups. It means that there is some difference of autonomic nervous system between these groups and it may be a clue that we should consider it the difference of mixed urinary incontinence from stress urinary incontinence.

References

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