

URINARY STORAGE SYMPTOMS IN PATIENTS WITH CHRONIC HEART FAILURE

Aims of study

To assess urinary storage symptoms among patients with chronic heart failure (CHF) and the correlates of these urinary symptoms were also explored.

Study design, materials and methods

A total of 214 consecutive chronic CHF patients from the outpatient departments of a medical center in eastern Taiwan were recruited. The CHF patients with the New York Heart Association (NYHA) functional stages verified by their cardiologists were referred to participate in this study. After informed consents were obtained from CHF patients, they were invited to complete the survey, which contained questions about urgency, daytime frequency, nocturia, urge urinary incontinence (UUI) and stress incontinence (SUI). In addition, other doctor-diagnosed diseases, such as hypertension, diabetes, chronic obstructive pulmonary disease (COPD)/asthma, chronic constipation and stroke, and demographics were also collected via medical record reviews and self-reports. CHF patients with urinary symptoms occurred in the last month, which was suspected as a current urinary tract infection, were excluded. The study was conducted from January to June of 2010, and each took approximately 15-20 minutes to complete.

Results

The mean age of participants was 69.64±11.69 years. The prevalence of urgency was 40.2% among CHF patients, while nocturia, daytime frequency, urge urinary incontinence (UUI) and SUI occurred at rates of 55.6%, 54.2%, 21.0% and 7.0%, respectively. Using conditional logistic regression analyses, the results showed that gender, stroke, the NYHA class significantly correlated with urgency, while age and pulmonary diseases significantly correlated with nocturia, gender, age and the NYHA class significantly correlated with UUI, and gender was significantly correlated with SUI (Table 1). Only 11.6% of CHF participants with OAB had ever sought to health care providers for their bladder problems during the prior year.

Interpretation of results

The storage urinary symptoms were highly prevalent in CHF patients. The NYHA stage of heart failure was an independent factor for urgency and UUI suggestive to overactive bladder, but not an independent factor for daytime frequency, nocturia or SUI. This result implied that the poor heart function might attribute to the pathogenesis of overactive bladder. However, few people tend to not discuss with their physician for their urinary problems.

Concluding message

Urinary storage symptoms were prevalent in CHF patients. The severity of CHF (NYHA stage) was might involve the pathogenesis of overactive bladder. When treating people with CHF, health care providers should increase the awareness that the possibility of urinary storage symptoms existed in CHF patients and provide high quality of care.

Table 1: Conditional logistic regression for urinary storage symptoms

Item	B	SE	df	Sig. (p)	Exp(B)	95 % CI	
						Lower	Upper
Factors for urgency (≥ 1/week)							
Gender (reference: male)							
females	.626	.300	1	.037	1.87	1.04	3.37
Stroke	1.491	.562	1	.008	4.44	1.48	13.36
NYHA stage (reference: stage 1)							
stage 2	.812	.368	1	.027	2.25	1.10	4.64
stage 3	1.248	.420	1	.003	3.48	1.53	7.94
Constant	-1.488	.331	1	.000	.23		
Factors for nocturia (≥ 2/nighttime)							
Age	.049	.013	1	.000	1.05	1.02	1.08
Pulmonary diseases	1.107	.559	1	.048	3.03	1.01	9.05
Constant	-3.282	.918	1	.000	.04		
Factors for daytime frequency (≥ 8/daytime)							
Constant	.169	.137	1	.219	1.18		
Factors for urge urinary incontinence (≥ 1/week)							
Gender (reference: male)							
females	.879	.358	1	.014	2.41	1.19	4.86
Age	.034	.017	1	.048	1.04	1.00	1.07
NYHA stage (reference: stage 1)							
stage 2	-.149	.472	1	.752	.86	.34	2.17
stage 3	1.115	.483	1	.021	3.05	1.19	7.86
Constant	-4.427	1.258	1	.000	.01		

Factors for stress urinary incontinence(≥ 1 /week)							
Gender (reference: male)							
females females	1.932	.662	1	.004	6.904	1.89	25.27
Constant	-3.738	.584	1	.000	.024		

Model included gender, age, hypertension, diabetes, heart diseases (congestive heart failure, myocardial infarction, angioplasty, or bypass surgery.), pulmonary diseases (chronic obstructive pulmonary disease, asthma), stroke, history of UTI in the past year. Urinary symptoms were not mutually exclude.

Specify source of funding or grant	no
Is this a clinical trial?	No
What were the subjects in the study?	HUMAN
Was this study approved by an ethics committee?	Yes
Specify Name of Ethics Committee	The institutional review boards of the Tzu-Chi General Hospital in Taiwan
Was the Declaration of Helsinki followed?	Yes
Was informed consent obtained from the patients?	Yes