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ANALYSIS OF THE PREDICTIVE FACTORS FOR IMPROVEMENT OF CHRONIC URINARY RETENTION IN MALE OR FEMALE

Hypothesis / aims of study

Chronic urinary retention (CUR) is the common urological symptom and needs treatment including catheterization or medication. There are two patterns of prognosis for CUR, spontaneous voiding without post-void residual urine or prolonged status of catheterization [1]. However, there were few studies indicating factors which affected two patterns of prognosis for CUR and almost those studies were performed for male but none for female [2,3]. We aim to assess the patient conditions before or after chronic urinary retention as predictive factors for improvement of CUR not only in male but also in female.

Study design, materials and methods

This retrospective study involved patients who have symptoms of chronic urinary retention in our hospital from April 2008 to August 2013. CUR was defined as the status of a bladder that did not empty completely and have post-void residual urine of more than 300 ml. Exclusion criteria were presence of bladder or prostate cancer, urethral stricture, or bladder stone. Patients were divided into two groups for presence or absence of spontaneous voiding defined as emptying with post-void residual urine of less than 100ml in the absence of operation or catheterization during 3 months after CUR. Evaluated factors were age (more than 80), presence of neurological disease, prostate volume (more than 30cm3, in the male cases), pre-use of anti-cholinergics, or treatment options (post-use of cholinergics, alpha adrenergic antagonists or intermittent catheterization).

Results

There were 172 males with presence (n=114) or absence (n=58) of spontaneous voiding and 51 females with presence (n=31) or absence (n=20) of spontaneous voiding. Predictive factors were post-use of cholinergics (OR 2.956, p = 0.0055) or intermittent catheterization (OR 8.749, p < 0.0001) in male, age (OR 0.1186, p = 0.0056) in female, respectively (Tables 1, 2).

Interpretation of results

Treatment options are useful for improvement of CUR but the prior conditions did not affect improvement in male cases. However in contrast, age as one of prior conditions indicating related decrease in bladder contractility was important for improvement of CUR in female cases. These results suggested that male voiding was a complex model associated with bladder contraction and urethral resistance but female voiding was a simple model associated only with bladder contraction.

Concluding message

The mechanism underlying CUR in female could be different from the one in male. CUR should be treated by medication or intermittent catheterization in male, but might not improve with treatment at the age more than 80 in female.

Table 1. Factors affecting prognosis of chronic urinary retention in male

	Spontaneous voiding		Univariate analysis (Fisher's exact test)	Multivariate analysis (Logistic regression)	
	present	absent	p value	OR	p value
No. pts	114	58			
Age			0.4039		
＞80	39	24			
≦80	75	34			
Neurological disease			0.1974		
present	16	13			
absent	98	45			
Prostate volume (cm^3)			0.4964		
＞30	75	41			
≦30	41	17			
Anti-cholinergics pre-use			0.0481*	2.221	0.1053
present	29	7			
absent	85	51			
Treatment options					
Cholinergics			< 0.0001*	2.956	0.0055*
present	87	35			
absent	27	23			
Alpha adrenergic antagonists			0.0095*	2.24	0.134
present	104	44			
absent	10	14			
Intermittent catheterization			< 0.0001*	8.749	< 0.0001*
present	107	37			
absent	7	21			

Table 2. Factors affecting prognosis of chronic urinary retention in female

	Spontaneous voiding		Univariate analysis (Fisher's exact test)	Multivariate analysis (Logistic regression)	
	present	absent	p value	OR	p value
No. pts	31	20			
Age			0.0199*	0.1186	0.0056*
>80	14	16			
≦80	17	4			
Neurological disease			0.225		
present	8	9			
absent	23	11			
Anti-cholinergics pre-use			0.668		
present	3	3			
absent	28	17			
Treatment options					
Cholinergics			0.0134*	2.182	0.4959
present	26	10			
absent	5	10			
Alpha adrenergic antagonists			0.0419*	3.726	0.3351
present	27	12			
absent	4	8			
Intermittent catheterization			0.0110*	9.827	0.0585
present	30	14			
absent	1	6			

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