

ANALYSIS ON RISK FACTORS OF UPPER URINARY TRACT DETERIORATION IN SPINAL CORD INJURED PATIENTS----- CROSS SECTIONAL STUDY

Hypothesis / aims of study

To evaluate the risk factors of upper urinary tract deterioration in spinal cord injured patients .

Study design, materials and methods

Medical record of spinal cord injured patients were retrospectively reviewed from jan.2002 to sep.2009 . All the patients were divided into the upper urinary tract deterioration group(group A) and non-deterioration group(group B) according to the diagnostic criteria . Indexes such as demographic characteristic (sex , age) , spinal cord injury information(cause, level , completeness) ,status of urinary tract system (bladder management , urine analysis, urine culture, ultrasound, serum creatinine, fever caused by urinary tract infection) and urodynamics information(bladder compliance BC , bladder stability , bladder sensation, detrusor sphincter dyssynergia , detrusor leak point pressure DLPP, maximum cystometric capacity MCC, relative safe bladder capacity RSBC , residul urinary volume RUV , maximum urethra closure pressuer MUCP) were compared between the two groups .Then logistic regression analysis will be performed .

Results

There was significantly difference between the two groups in spinal cord injury level (p=0.031) ,bladder management (p=0.045) ,urinary analysis (p=0.000) , fever caused by urinary tract infection (p=0.000) ,bladder compliance (p=0.011) ,bladder sensation (p=0.009) ,maximum cystometric capacity (p=0.043) ,detrusor sphincter dyssynergia (p=0.039) .Multiple-factor Non-conditional Logistic regression analysis showed that unreasonable bladder management,low bladder compliance, detrusor sphincter dyssynergia and fever caused by urinary tract infection were the risk factors of upper urinary tract deterioration in spinal cord injured patients.

Interpretation of results

Although there were great difference between the two groups in most indexes such as spinal cord injury level, bladder management and so on, not all have the clinical significance. [The interaction](#) of unreasonabl bladder management,low bladder compliance, detrusor sphincter dyssynergia and urinary tract infection lead to the upper urinary tract deterioration.

Concluding message

Unreasonable bladder management, low bladder compliance, detrusor sphincter dyssynergia and fever caused by urinary tract infection are the risk factors of upper urinary tract deterioration in spinal cord injured patients.

Table 1 Comparison of Urodynamics Indexes in 646 Spinal CordInjured Patients

	group A	group B	P
DLPP(cmH ₂ O)	55.38±23.709	57.79±31.499	0.682
MCC (ml)	210.48±129.801	245.22±132.178	0.043
MUCP(cmH ₂ O)	78.01±25.306	78.33±25.287	0.582
RSBC (ml)	68.54±25.663	70.31±23.794	0.551
RUV (ml)	211.89±171.105	202.42±183.466	0.714
BC			
Normal	28	122	
Increased	12	44	
Low	127	313	0.011
Stability of Detrusor			
Irreflective	48	198	
Overactive	62	338	0.188
Bladder Sensation			
Normal	16	66	
Sensitive	12	21	
Weaken	10	80	
Disappeared	72	370	0.009
Cordination of Detrusor and Sphincter			
Cordinated	61	235	
Dyssynergia	49	291	0.039

Disclosures

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