365

Luo D[1], Ding M[2], Zhang H[1], Dai Y[1], Shen H[1]
1. *Department of Urology,Westchina Hospital,Sichuan University,* ***2.*** *Department of Rehabilitation,Westchina Hospital,Sichuan University*

BLADDER MANAGEMENT IN PATIENTS WITH SPINAL CORD INJURY SUSTAINED IN 2008 WENCHUAN EARTHQUAKE

Hypothesis / aims of study

This study aimed to provide an overview of demographic and epidemiological characteristics, the bladder management status and the quality of life in patients with Spinal Cord Injury(SCI) after 5.12 Wenchuan earthquake; but also to assess the relationship between bladder management methods and urinary complications and quality of life.

Study design, materials and methods

A cross-sectional face-to-face household survey was conducted in 180 patients with SCI 2 years after the 2008 Wenchuan earthquake. A self-administered questionnaire, including demographic, injury-related information, the management methods of the bladder, various urologic complications and the WHOQOL-BREF assessment, was used and took about 30 minutes to complete.

Results

The male-to-female ratio was approximately 1.2:1 (n =98[54.4%] and n =82[45.6%], respectively). The majority (n=81[45%]) were 41 to 60 years of age. (n=82[45.56%]) had thoracic-level injuries, (n=60[33.33%]) had lumbar-level injuries, (n=18[8.33%]) had thoracolumbar-level injuries, and a few had cervical- or sacral-level injuries. (n=41[22.78%]) had American Spinal Injury Association type A injuries; (n=18[10.00%]) were graded B, (n=16[8.89%]) were graded C, (n=74[41.11%]) were graded D, and (n=31[17.22%]) were graded E. (n=62[34.44%]) had normal voiding, (n=65[36.11%]) were manually assisted voiding, (n=29[16.11%]) had catheterization, (n=24[13.33%]) had urinal collecting apparatus. The prevalence of urologic complications was high: urinary tract infections in 43.89%, urinary lithiasis in 11.11%(Table 1). The patients who empty their bladder by manually assisted voiding, catheterization and urinal collecting apparatus had higher the rates of UTI compared to the patients voiding normal($P<0.05$). The patients with catheterization had higher the rates of UTI compared to the patients with manually assisted voiding($P<0.05$). The patients with SCI had low scores of WHO QOL-Bref, physical domain: 11.61±3.80; psychological domain: 10.11±3.63; social domain:11.46±2.84; environmental domain:11.86±2.51. Significant differences in physical health, psychological health and social relationship can be seen in SCI patients using different bladder management methods ($P<0.05$).

Table1. Complications accompany the types of the management of bladder

Bladder Management	Patients(n)	Patients(n)	
		Rates of UTI	Rates of Calculus
Normal voiding	34.44% (n=62)	17.74%(n=11)	3.23% (n=2)
Manually assisted voiding	36.11% (n=65)	47.69%(n=31)	13.85%(n=9)
Credé maneuver	21.67 %(n=39)	35.90%(n=14)	10.26% (n=4)
Valsalva	11.11%(n=20)	60.00%(n=12)	15.00% (n=3)
Reflex trigger	3.33%(n=6)	83.33% (n=5)	33.33% (n=2)
Catheterization	16.11%(n=29)	72.41%(n=21)	20.69% (n=6)
Clean intermittent catheterization	6.11%n=(11)	81.82% (n=9)	18.18%(n=2)
Indwelling transurethral catheterization	6.11%n=(11)	63.64 % (n=7)	9.09% (n=1)
Indwelling suprapubic catheterization	3.89%(n=7)	71.43% (n=5)	42.86% (n=3)
Urinal collecting apparatus	13.33%(n=24)	6.67（n=16）	12.50% (n=3)

Abbreviations: UTI: urinary tract infection.

Interpretation of results

Urological dysfunction is an important issue for patients with SCI. An earlier study recommended that choice of bladder management should include a consideration of many factors such as age, patient preference, financial concerns, functional status and patient motivation[1]. In this study, only 34.44% patients with an SCI report voiding normally, 65.56% patients requiring specific bladder management to facilitate emptying. CIC has been shown to be the safest bladder management method for patients with an SCI in terms of urological complications. From the results of our research, the patients who empty their bladder by CIC have high incidence of UTI and the worst emotional condition and social relationship.

Concluding message

The bladder management methods influence the rate of urinary tract infection(UTI) and QOL in patients with SCI. The bladder management in patients with SCI is essential to health care planning after the catastrophe.

References
1. Benevento BT, Sipski ML. Neurogenic bladder, neurogenic bowel, and sexual dysfunction in people with spinal cord injury. Phys Ther 2002;82:601–612.

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?	**No**
This study did not require ethics committee approval because	**It is just epidemiological survey.**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**