

EVALUATION FOR MICTURITIONAL DISTURBANCE AFTER STROKE: STORAGE SYMPTOMS AND RESIDUAL URINE

Aims of Study

Post-stroke patients frequently develop frequently storage symptoms. It is known that storage symptoms concurrently develop with voiding symptoms. However, few studies have reported the condition, patient's characteristics, or treatment. In this study, we focused on the condition with residual urine, and investigated comorbidities, symptoms, type of stroke, lesion site, functional disorder, activities of daily living (ADL), and urodynamic studies.

Methods

This study included 79 patients with micturitional disturbance after stroke. The subjects consisted of 36 males and 43 females, with a mean age of 68 years. We excluded patients in whom the interval after onset was less than 4 weeks, and who administered any drugs affecting on the urinary tract, and/or displayed urinary tract disturbances. Residual urine volume was determined by catheterization, and patients were divided into 2 groups. Patients with a residual urine volume of 100 ml or more were regarded as having residual urine. Several factors, including gender, age, comorbidities, symptoms, type of stroke, lesion site, functional disorder, ADL, and urodynamic studies, were compared between the group with residual urine and the group without residual urine.

Results

In 30 of 79 subjects, residual urine (100 ml or more) was observed. Mean ages were 71 in the group with residual urine and 65 years in the group without residual urine, respectively. The value was significantly higher in the group with residual urine. With respect to comorbidities such as diabetes and benign prostatic hypertrophy, there were no marked differences in the incidence between two groups.

Inquiry regarding symptoms was performed in 60 patients. Only 6 of 21 patients in the group with residual urine reported symptoms during voiding., such as residual sensation of urine and difficulty in urination.

Barthel index revealed that the value was significantly higher in the group without residual urine. Of 33 patients who underwent an urodynamic studies, residual urine was observed in 9. In 4 patients, hyperactive bladder function was observed during storage phase. Furthermore, 5 patients showed underactive bladder during voiding phase. In 4 patients, urethral hyperactivity was noted during voiding phase.

In the group with a high residual urine volume, drug therapy combined with α -blockers and anti-cholinesterase agents was effective in a few patients. However, these treatments were not always satisfactory, and catheterization was sometimes needed.

Conclusions

In conclusion, a high residual urine volume after stroke was associated with age, severe disability, was inhibitory factor in rehabilitative management of post-stroke patients.

References

- (1) Resnick NM, Yalle SV. Detrusor hyperactivity with impaired contactile function. An unrecognized but common cause of incontinence in elderly patients. *JAMA* 1987;257(22):3076-81
- (2) Sakakibara R, Hattori T, Yasuda K, Yamanishi T. Micturitional disturbance after acute hemispheric stroke: analysis of the lesion site by CT and MRI. *Journal of the Neurological Sciences* 1996; 137: 47-56
- (3) Ween JE, Alexander MP, D'Esposito M, Roberts M. Incontinence after stroke in a rehabilitation setting: outcome associations and predictive factors. *Neurology* 1996;47: 659-663