

LOWER URINARY TRACT DYSFUNCTION IN AMBULATORY NEUROPATHIC PATIENTS WITH INCOMPLETE SPINAL CORD INJURY

Aims of Study

To evaluate lower urinary tract dysfunction in in-patients with incomplete spinal cord injuries who can walk.

Methods

In the last 9 months during out-patient clinic review we have identified 64 patients (M 43; F 21) who had an incomplete spinal cord injury and are able to walk either independently or with the help of a stick. The mean age is 46 years (18-70). The group comprises of cervical (n=29), thoracic (n=9) and lumbar (n=26) spinal lesions. All patients underwent video-urodynamics (VCMG) after recovery from spinal shock. The appropriate bladder management was instituted in the light of the VCMG result. All patients have been regularly followed up for a mean of 7 years with either video-urodynamics or flow rate and ultrasound scanning.

Results

After recovery from spinal shock 40/64 patients (62.5%) could void spontaneously on urge confirmed on VCMG. Another 20/64 patients (31.2%) required clean self-intermittent catheterization (CSIC) and 4 (6%) had a suprapubic catheter inserted.

On follow-up VCMG 19/40 (47.5%) patients voiding on urge were advised to perform CSIC due to hyperreflexia, detrusor sphincter dyssynergia or incomplete bladder emptying. 5/20 (25%) patients performing the CSIC were able to void on urge confirmed on VCMG.

Overall 24/64 (37.5%) patients required a change in bladder management after re-evaluation with VCMG. The results are tabulated below:

Type of Bladder Management	No. After initial VCMG	No. After F/U VCMG
Urge Voiding	40/64 (62.5%)	21/64 (33.3%)
Intermittent catheterization	20/64 (31.2%)	15/64 (23.4%)
Suprapubic catheterization	4/64 (6.2%)	4/64 (6.2%)

According to the level of injury, 22/29 (75.8%) patients from the cervical group initially voided on urge, however on follow-up VCMG 7 (31.7%) patients developed either detrusor hyperreflexia or detrusor sphincter dyssynergia.

16/26 (62.3%) patients of the lumbar group were performing CSIC after initial VCMG. But 4 (25%) of these could void to completion without evidence of hyperreflexia on follow-up VCMG.

Overall, one patient developed vesico-ureteric reflux, with no upper tract damage

Conclusions

To our knowledge there is one study in the literature evaluating the incidence of bladder dysfunction in neurologically intact patients with spinal injuries (1) but it is in the acute phase only. Our study is the first to uncover this sub-group of walking spinal cord injured patients who have neuropathic bladders. We have shown that although one third of these patients may initially be able to void spontaneously. They require close follow-up with VCMG as half of them will develop detrusor hyperreflexia later on. Moreover the bladder function might improve over time and therefore it is important that they should have regular urological monitoring. Lastly it should be stressed upon these patients that even if they are walking and voiding normally they are likely to have neuropathic bladders unless proven otherwise by video-urodynamics.

References

1- Watanabe T, Vaccaro AR, Kumon H, Welch WC, Rivas DA, Chancellor MB: High incidence of occult neurogenic bladder dysfunction in neurologically intact patients with thoracolumbar spinal injuries. J Urol. 1998 Mar;159(3):965-8.