

LOWER URINARY TRACT DYSFUNCTION FOLLOWING SPINAL SURGERY FOR NON-MALIGNANT CAUSES

Aims of Study

To evaluate lower urinary tract dysfunction following elective spinal surgery for disc lesions and decompression of spinal nerve roots.

Methods

A case record analysis at our spinal injuries unit identified 22 patients (M 15; F 07) with a mean age of 45.8 years (29-75). 17 patients had lumbo-sacral surgery and 5 had thoracic spine operations. No patient had significant bladder dysfunction pre-operatively. Post-operatively all patients have been followed up for a mean of 7 years (range 1- 18 years) with video-urodynamics (VCMG) or uroflowmetry and ultrasound scanning on yearly basis.

Results

8 of 17 (47.1%) patients who had surgery at the lumbosacral level developed acontractile bladders on video-urodynamics. The remaining 9 (53.8%) were able to void on urge but 3 had evidence of detrusor hyperreflexia and required anticholinergics. 1 patient had an obstructive pattern on urodynamics and required bladder neck incision.

Of the 5 patients who had undergone surgery at thoracic level, the initial video-urodynamics did not reveal any abnormality and all could void normally. However on follow-up VCMG 2 (40%) demonstrated detrusor hyperreflexia and detrusor sphincter dyssynergia (DSD) and were commenced on self-intermittent catheterization. Another 2 (40%) showed only hyperreflexia and required anticholinergics while 1 developed loss of bladder compliance.

Serial ultrasound of the kidneys did not reveal any abnormalities. One thoracic and one lumbar patient also demonstrated stress incontinence and had surgical correction performed.

The results are tabulated below according to the level of surgery:

Level of Surgery	No. of Patients	Voiding on Urge	Urge Voiding with DH/DSD	Intermittent Catheterization
Lumber	17	6	3	8
Thoracic	5*		2	2
Total	22	6	5	10

* : 1 patient developed loss of compliance.

DH: detrusor hyper-reflexia, DSD: detrusor sphincter dyssynergia

Overall 12 (54.4%) could void spontaneously on urge however 5 of these required anticholinergics as they had hyperreflexia. The remaining 10 (44.4%) had either acontractile bladders or had significant DSD mandating the use of intermittent catheterization. Moreover 33% of patients with surgery at lumbar level could void normally while all patients with thoracic level intervention developed neuropathic bladders in this study.

Conclusions

This study demonstrates the development of neuropathic bladder dysfunction in more than two-thirds of patients undergoing non-malignant spinal surgery (as shown on postoperative VCMG.) The surgery at lumbar level affords a better chance of retaining a normal voiding pattern than at thoracic level.

The effects of decompressive laminectomy on voiding function can be unexpected (1). Therefore these patients must be informed of this potential complication pre-operatively and need close follow up with regular post-operative video-urodynamics.

References

1. Hellstrom PA, Tammela TL, Niinimaki TJ: Voiding dysfunction and urodynamic findings in patients with lumbar spinal stenosis and the effect of decompressive laminectomy. Scand J Urol Nephrol. 1995 Jun; 29(2):167-71.