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SIGMOIDOCOLOCYSTOPLASTY WITH CONCOMITANT URETER REIMPLANTATION ON TREATMENT OF NEUROGENIC BLADDER DYSFUNCTION: A SINGLE CENTER OUTCOMES AND EXPERIENCE WITH 47 PATIENTS

Hypothesis / aims of study

To assess clinical and urodynamic results of sigmoidocolocystoplasty (SCCP) in patients with neurogenic bladder dysfunction (NBD).

Study design, materials and methods

We retrospectively reviewed a total of 78 augmentation enterocystoplasty (AE) cases from our database between 2005-2011 to identify 47 patients who underwent SCCP in the combination with ureter reimplantation (URI). Indications for surgery and perioperative complications were evaluated. Preservation of renal function, increased post-operative bladder capacity, decreased maximum detrusor pressure and overall satisfaction of patients were deemed successful outcomes.

Results

The mean follow-up length was 24 months. The mean bladder capacity increased from 160.6 ± 128.3 to 468.5 ± 60.6 ml ($p < 0.001$) and the maximum detrusor pressure decreased from 31.1 ± 26.4 to 10.9 ± 4.5 cmH_2O ($p = 0.002$) (table 1). Serum creatinine level decreased from 270.3 ± 113.6 to 174.4 ± 81.3 umol/l ($p = 0.001$) (fig.1). The majority of patients resolved the urinary incontinence under clean self-intermittent catheterization. The decrease on mean number of incontinence episodes and pads used per day indicated a marked improvement on patients' quality of life. Post-operative complications included bowel dysfunction in five patients (10.6%), adhesive intestinal obstruction in four patients (8.5%), deteriorating renal function in three patients (6.4%) and recurrent of VUR in two patients (4.3%). Nearly all patients expressed satisfaction with urological management.

Interpretation of results

The results indicate that augmentation cystoplasty using sigmoid segment is a safe and effective treatment for NBD in 24-month follow-up. Concomitant URI is beneficial for patients with long illness history. High levels of patient satisfaction were recorded. However, careful selection of patient and effective preparation are vital for improvement of outcomes.

Concluding message

Our results suggest that SCCP is safe and effective in treating patients with NBD. Concomitant URI is beneficial for patients with long illness history.

Table 1. Comparison of pre- and post-operative urodynamics parameters of 47 patients who underwent sigmoidocolocystoplasty.

	MBC (ml)	MDP ($cm.H_2O$)	MUPP ($cm.H_2O$)	BC ($ml/cm.H_2O$)
Pre-operation	160.6 ± 128.3	31.1 ± 26.4	77.3 ± 30.0	11.82 ± 14.2
Post-operation				
6 months	372.3 ± 129.1*	21.4 ± 17.3#	59.0 ± 23.0!	44.4± 69.9&
12 months	452.8 ± 87.8*	13.7 ± 9.9#	81.3 ± 23.4	58.6 ± 88.5&
24 months	468.5 ± 60.6*	10.9 ± 4.5#	73.6 ± 22.7	50.9 ± 23.9&

*$p < 0.001$, &$p < 0.001$, #$p < 0.05$, !$p = 0.0014$

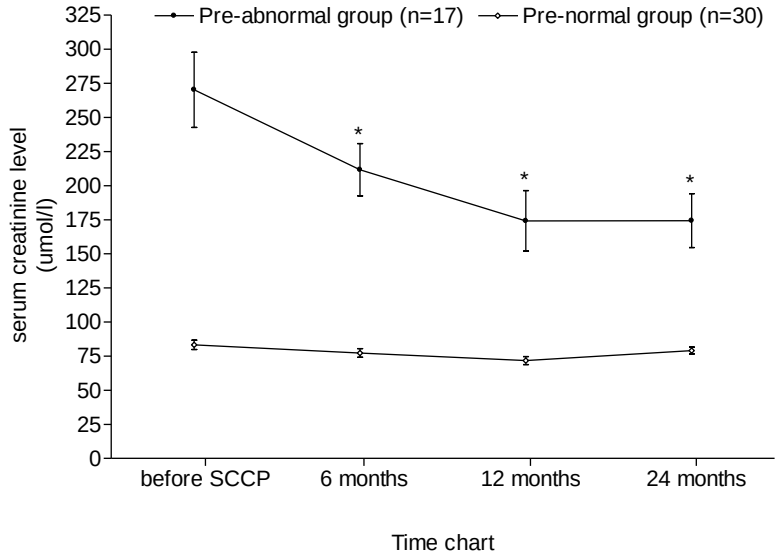

Figure 1. The chronologic change of serum creatinine level (SCL) in patients underwent SCCP.The SCL in abnormal group (n = 17) was decreased post-operatively, significant at 6, 12 and 24 months (*p < 0.05). The SCL in normal group (n = 30) was stable postoperatively.

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