

INTRAVESICAL BOTULINUM TOXIN A IS EFFECTIVE AND SAFE FOR PATIENTS WITH OVERACTIVE BLADDER AND INTRACEREBRAL LESION

Hypothesis / aims of study

Intravesical injection of botulinum toxin A (BoNT-A) is thought to be an effective treatment option on patients of overactive bladder (OAB). The BoNT-A intravesical injection reduced frequency, urgency, and increased quality of life, but with the risks of increasing post-void residual urine volume (PVR) and urinary retention. However, the treatment outcome remains unclear whether it is applicable in OAB patients with comorbidity of intracerebral lesions. Our study is to evaluate the efficacy and safety of intravesical BoNT-A injection on patients with OAB combined with intracerebral lesions.

Study design, materials and methods

Patients with OAB and combined with intracerebral lesions were enrolled in the study group, while OAB patients without medical comorbidity were selected in the control group.

The cerebral lesions included cerebrovascular accident (n=16), Parkinson's disease (n= 8) and early dementia (n= 4). Intravesical suburothelial injection was performed under cystoscopy guidance with 100 U BoNT-A. Subjective evaluation using urgency symptoms score, and objective evaluation using urodynamic parameters including maximum flow rate (Qmax), PVR, cystometric bladder capacity (CBC) were recorded before and 3 months after intravesical BoNT-A injection. Adverse effects which were considered related to BoNT-A injection were recorded as well.

Results

A total of 161 OAB patients were enrolled in this study, 28 of them had intracerebral lesions while the others were without intracerebral lesion. The mean ages of OAB patients with and without comorbidity were 74.2 and 65.4 years old, respectively. After intravesical BoNT-A injection, subjective improvements, including decreased urgency and frequency episodes, were reported in both groups (Table 1). Compared the adverse events occurring in the study and control groups, no significant difference was noted in acute urinary retention (14.3% v 6%, p=0.133), straining to void (53.6% v 42.9%, p=0.204) and general weakness (3.6% v 0%, p=0.174) were noted between study and control group, respectively. However, more patients developed large PVR (67.9%) in the study group than the control group (39.1%, p=0.005). However, there was no significant difference in urinary tract infection rates between two groups (7.1% v 15.0%, p=0.217). After 30 months follow up, the long term success rate was significantly lower in the patients with intracerebral lesions (p=0.006) (Fig.1).

Interpretation of results

Intravesical BoNT-A injection provides therapeutic effects in OAB patients with intracerebral lesions as well as those without medical comorbidity. Although OAB patients with intracerebral lesions tend to have large PVR after intravesical BoNT-A injection, there was no significant increasing risk of urinary tract infection, nor the increasing risk of urine retention. However, effects of BoNT-A lasts significantly shorter in the OAB patients combined with intracerebral lesions.

Concluding message

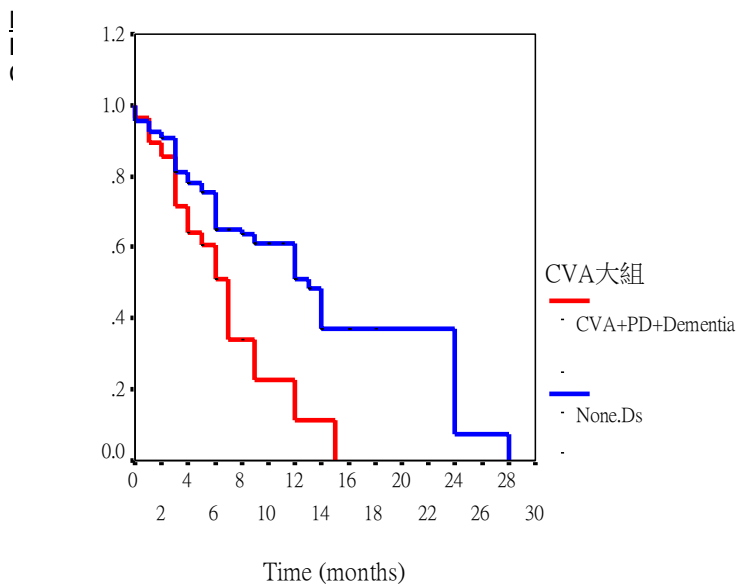
Intravesical BoNT-A injection can be used as an effective and safe treatment option in patients with OAB and intracerebral lesions, only with a shorter treatment effective periods.

Table 1. The changes of objective and subjective variables at baseline and 3 months between two groups

		With cerebral events (n=28)	Without cerebral events (n=133)	Changes of variable between groups P-value
USS	BL	3.73 ± 0.65	3.78 ± 0.43	0.010
	3M	3.00 ± 0.89	2.06 ± 0.87 *	
Frequency	BL	64.7 ± 19.0	64.9 ± 14.5	0.912
	3M	55.6 ± 22.3	56.9 ± 27.4	
Urgency	BL	51.7 ± 22.5	50.6 ± 22.0	0.789
	3M	47.4 ± 28.8	43.8 ± 16.5	
UUI	BL	13.0 ± 15.0	14.4 ± 15.0	0.770
	3M	8.11 ± 10.9	13.2 ± 36.8	
Qmax	BL	12.2 ± 5.66	12.2 ± 5.75	0.988
	3M	11.9 ± 7.10	12.0 ± 7.24	
Vol	BL	186 ± 98.6	227 ± 104	0.277
	3M	182 ± 84.5	189 ± 111	
PVR	BL	54.8 ± 49.1	23.3 ± 33.4	0.534
	3M	143 ± 112 *	93.5 ± 81.4 *	
Pdet	BL	29.3 ± 11.8	32.4 ± 18.7	0.393
	3M	25.5 ± 16.3	24.7 ± 15.0 *	
Capacity	BL	238 ± 105	250 ± 115	0.223
	3M	326 ± 153 *	289 ± 142	

* indicates significantly different within group between baseline and 3 months

Fig.1. The cumulative success rate in the patients with intracerebral lesion and control.



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