

Our study revealed that the severity and frequency of AD significantly decreased after BTX-A injection for NDO in patients with high-level SCI.

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Autonomic dysreflexia (AD) is a condition that frequently occurs in patients with spinal cord injury (SCI), particularly in those with cervical and upper thoracic injuries at level above T6. Paroxysmal hypertension of at least 20 mmHg is a notable pathophysiological response observed in AD.

AD causes mild to debilitating symptoms, including headache, acute anxiety, cold and clammy skin, shivering, blurred vision, and facial flushing. If the trigger is not eliminated, AD can rapidly escalate, resulting to systolichypertension of >200 mmHg, seizure, hemorrhagic stroke, or even death.

Several stimuli can cause AD; however, the urinary bladder accounts for up to 85% of cases owing to bladder distension or involuntary detrusor contractions, also known as detrusor overactivity (DO).

We hypothesized that BTX-A injection is a logical treatment option or NDO as well as AD. A total of 25 consecutive individuals participated in the study.

Table 2 Bladder function and I-QoL after BTX-A injection.			
	Pre-injection	Post-injection	P-value
Pdetmax	52.96 ± 18.546	31.04 ± 10.171	0.000
VFIDC	143.56 ± 77.670	272.40 ± 72.631	0.000
V-CIC	177.40 ± 50.273	308.00 ± 67.206	0.000
I-QoL	44.20 ± 8.357	69.60 ± 11.740	0.000

Pdetmax, maximum detrusor pressure during the first involuntary detrusor contraction; VFIDC, volume at the first involuntary detrusor contraction; V-CIC, mean urine volume per catheterization; I-QoL, Incontinence Specific Quality of Life Instrument.

The ΔSBP from baseline was calculated to assess severity.

Table 3 Autonomic dysreflexia severity after BTX-A injection.			
	Pre-injection	Post-injection	P-value
Baseline SBP	102.00 ± 7.522	100.24 ± 8.212	0.433
Maximum SBP	151.44 ± 13.920	133.32 ± 9.196	0.000
Δ SBP	49.44 ± 12.813	33.08 ± 9.105	0.000

SBP, systolic blood pressure; ΔSBP, the change in SBP from baseline.

The frequency of AD was evaluated according to document the incidences of AD by 24 h period ambulatory blood pressure monitoring (ABPM) examination.

Table 4 Autonomic dysreflexia frequency after BTX-A injection.			
	Pre-injection	Post-injection	P-value
Total AD episodes	13.84 ± 1.675	10.72 ± 2.264	0.000
Bladder-related AD episodes	11.04 ± 1.814	7.88 ± 2.147	0.000

AD, Autonomic dysreflexia.

This finding may prove to be a viable treatment strategy for the successful alleviation of AD episodes and amelioration of cardiovascular-related health risks associated with SCI.