128

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INCOMPLETE BLADDER EMPTYING AFTER INTRA-DETRUSOR INJECTION OF BOTULINUM TOXIN-A

Hypothesis / aims of study

The intra-detrusor injection of Botulinum toxin-A (BTX-A) is becoming an accepted treatment option for the management detrusor overactivity (DO) refractory to medical management. Retention of urine is a potential complication following delivery of BTX-A into the bladder wall. We reviewed our experience with patients who developed incomplete bladder emptying (IBE) following intra-detrusor injection of BTX-A for non-neurogenic DO.

Study design, materials and methods

A retrospective chart review was performed on all patients undergoing cystoscopic intra-detrusor injections of BTX-A for refractory non-neurogenic DO. Each patient received a total of 100-200 units of BTX-A. All patients had urodynamically proven detrusor overactivity without bladder outlet obstruction or urinary retention. Clinical and pre-op urodynamic characteristics were compared between patients that developed IBE, defined as a post void residual (PVR) urine volume of >150mL, and those that did not develop IBE. Minimum follow-up was 6 months.

Results

Parameter (mean)	IBE Patients (n = 15)	Non-IBE Patients (n = 9)	p Value
Male:Female	3:12	2:7	
Age (yrs)	68.1	57.2	0.05
PVR (mL)	265.1	42.0	<0.01
Dose injected (units)	178.6	185.6	0.6
Qmax (mL/s)	12.3	16.2	0.4
Pdet max (cmH2O)	39.0	30.2	0.44
PdetQmax (cmH2O)	29.4	28.7	0.56
Max DO amplitude (cmH2O)	40.2	46.3	0.45
# with trigone injected	5	4	0.3
Mean duration of IBE	2.9 months	n/a	

Interpretation of results

IBE may result in over 60% of the patients treated with BTX-A for non-neurogenic DO at standard dosages. This effect is temporary. Older patients appear to be at higher risk. Preoperative urodynamic studies were not predictive in determining post-procedural IBE. As well, trigonal injection did not appear to increase the risk of IBE.

Concluding message

IBE may be a common occurrence following intra-detrusor injection of BTX-A for non-neurogenic DO. It is more common in older patients. It may be advisable to user lower doses in older patients

References

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HUMAN SUBJECTS: This study was approved by the Medical College of Wisconsin Institutional Review Board and followed the Declaration of Helsinki Informed consent was not obtained from the patients.