

INTERMITTENT CATHETERISATION AFTER BOTULINUM TOXIN INJECTION: IS IT REALLY NECESSARY OR JUST MEDDLESOME?

Hypothesis / aims of study

The occurrence of an anomaly does not necessarily imply that anything should be done about it. A vagary of modern culture is to promote remediation for deviations from what is perceived as normal, without empirical evidence to justify such action. Clinicians are no less prone to this than the wider public.

For example, it has been recommended, in several guidelines, that assessment of an elderly person with lower urinary tract symptoms should include a measurement of postmicturition residual urine volume. It is true that the elderly void less efficiently than others. However, there are no data to inform on the practical utility of this measurement, nor justification for taking remedial action on identifying a “significant” residual. It has been argued that by ignoring such an anomaly the clinician would do harm. This is a logical fallacy of “question begging”; where a proposition is advocated although its validity depends on a premise that is only an uncorroborated conjecture. Our clinical practice abounds with such logical fallacies.

An excellent example occurs with the management of patients who have intra-detrusal botulinum toxin injections. It has been recommended that patients who, after such treatments, are found to have a post-void residual urine (PVR) of ≥ 200 ml or ≥ 150 ml, should be started on clean, intermittent self-catheterisation (CISC). Why should this be? Who came up with this stipulation and what evidence was it based on? The literature offers no corroborative data. Botulinum toxin reduces bladder contractility so hydronephrosis is not a plausible risk. Do data exist that demonstrate that incomplete bladder emptying, after botulinum toxin injection, causes infection? The answer is that there are none.

This study used an observational method to test the hypothesis that patients with significant voiding problems, after intra-detrusal botulinum toxin injections, would be unharmed if intermittent self catheterisation was not used. If no evidence of disadvantage was observed, a formal RCT would not then be justified. This is because *a priori*, no data that would recommend CISC in this context exist and the burden of undertaking a RCT should be encouraged by some tangible evidence

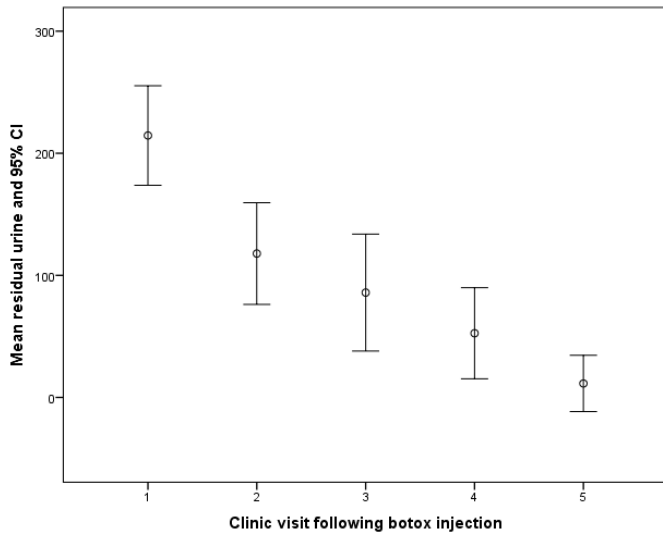
Study design, materials and methods

Recruitment and data collection were undertaken in a single, specialist incontinence service in the UK between 2010 and 2011. Patients being treated for recalcitrant lower urinary tract symptoms by use of intradetrusal botulinum toxin injections were recruited into the study having given written consent. Patients with acute retention of urine; or bladder voiding symptoms alleviated by drainage of the residual volume were excluded. Patients were serially reviewed after their botulinum toxin treatment and their PVR monitored using ultrasound measurements; symptoms were recorded, and microscopy and microbial culture undertaken. The data were analysed by a blinded researcher

Results

190 patients were studied (M=19, F=171; mean age=54; sd=15). 30 patients (16%; F=26, M=4) used CISC: 18 patients used CISC prior to Botox (7 had MS; 11 had other spinal pathology); 12 had retention symptoms relieved by removal of residual and in them CISC was instituted. The mean PVR of patients not using CISC was 179 ml (95% CI=156-204; Max=725 ml). For those using CISC the mean PVR was 545 ml (95% CI=62-1027 ml). There were no between-group differences in treatment response, urgency, frequency, incontinence, voiding, or pain symptoms. There were no differences in pyuria or positive urine culture, and no evidence of differences in renal biochemistry throughout follow-up. The figure illustrates the resolution of elevated PVR volumes, unaided by CISC.

Figure Resolution of PVR volumes over time in patients NOT using CISC



Interpretation of results

There were no differences between those who used CISC and those who did not; other than patients who used CISC did so because they had troublesome voiding symptoms relieved by removing the retained urine. As a group these evinced higher residual volumes.

Concluding message

CISC, initiated on the basis of an arbitrary PVR volume, confers no apparent benefit, and should be abandoned as unnecessarily meddlesome. The intervention has a role after intradetrusal botulinum toxin injection, but only in patients with appropriate neurological or other diseases that threaten the upper tracts. The only other indication appears to be troublesome voiding symptoms, significantly helped by CISC. There are no data to imply that a RCT would be a justified imposition.

The newer approach would make botulinum toxin injections more acceptable to many patients

Disclosures

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