

DAY CASE TREATMENT OF RESISTANT NEUROGENIC DETRUSOR OVERACTIVITY, FOLLOWING TRAUMATIC SPINAL CORD INJURY

Hypothesis / aims of study

Anticholinergic drugs and intermittent catheterisation is commonly used to manage neurogenic detrusor overactivity (NDO). In refractory cases, or where anticholinergics are poorly tolerated, minimally invasive options are limited. We present our experience with intra-detrusor (ID) injections of English Botulinum Toxin A (Dysport®) as a day case management of such cases following traumatic spinal cord injury (SCI).

Study design, materials and methods

One thousand units of Dysport® diluted in 30 mls sterile water were cystoscopically injected ID at 30 sites, in 25 patients with refractory NDO on a day case list. Mean age was 39.2 years. Eleven patients were taking Oxybutynin or Tolterodine, and further 8 used combination of Oxybutynin and Tolterodine. Six patients were intolerant to anticholinergics. All patients on anticholinergics were asked to continue the medications for two weeks after injections and then to stop completely. Thirteen patients were performing intermittent catheterisation, 3 urge voiding, and 9 had a long-term catheter. Fifteen patients were incontinent on preoperative videocystometrogram (VCMG). VCMG was repeated three to six months post treatment.

Results

Mean follow-up was 10 months (range 3-21). Maximum cystometric capacity increased from a mean 260.5 ml (range 50-600) to 518.9ml (range 40-1000, $p < 0.0001$). Maximum detrusor pressure decreased from a mean 52.5 cmH₂O (range 17-148) to 25.2 cmH₂O (range 3-70, $p < 0.0001$). Sixteen patients had no unstable contractions in postoperative VCMG; they persisted in 7. Incontinence ceased in 12/15 patients. Mean bladder capacity at which loss of compliance was noted also improved from 139.3ml to 252.8mls ($p = 0.0045$). Eight patients stopped, 7 reduced and 4 remain on same dosage of anticholinergics. Ten patients (40%) required re-injections at an average of 10.2 months (range 3-12).

Interpretation of results

Intra detrusor Dysport® injections are effective in the day case management of refractory NDO in the neuropathic bladder. No complications were noted and all patients were discharged on the same day. Bladder capacity is significantly increased with marked decrease in NDO and maximum detrusor pressures. Improvement was also seen in bladder volumes at which loss of compliance was apparent. Thirty two percent patients (8/25) stopped and 28% (7/25) reduced anticholinergics. Forty percent patients (10/25) relapsed after average of 10.2 months and were reinjected with same dose.

Concluding message

In short term, ID Dysport® injections are an effective day case treatment of refractory NDO in SCI patients. The long-term efficacy and optimum requirement for repeated injections is currently being investigated. Until then this minimally invasive treatment appears to successfully bridge the gap between oral and invasive treatment for refractory NDO.