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Title: DETRUSOR MYECTOMY WITH BOTOX INJECTION

Introduction:

The practice of detrusor myectomy for refractory detrusor instability has gained favor in all but the myelomeningocele population. It has the advantage over intestinocystoplasty in that there is no urine reabsorption, which may lead to hyperchloremic metabolic acidosis as well as other problems. It does carry several disadvantages. First it may not achieve the same total volume as ileocystoplasty. In addition, it may take several months to a year before the maximum capacity is reached.

It has been shown that botulinum toxin has a profound, albeit temporary, paralytic effect on the bladder detrusor muscle. It causes an increase in bladder capacity at a lower pressure (increases compliance) shortly after injection. We combined detrusor myectomy, along with botox treatment of the remaining detrusor muscle in a group of patients with spinal cord injury or myelomeningocele.

Materials & Methods:

Detrusor myectomy was accomplished through a Pfannenstiel incision, excising the detrusor muscle from the anterior surface, extending 90° in all directions. Afterwards, botox was injected in a concentration of 1-5 mg/cc, at a dosage of 3 mg/kg. A foley catheter was left indwelling for 48 hours, then intermittent catheterization was resumed. A total of 8 patients underwent this procedure. Two had thoracic level spinal cord injury and six had meningomyelocele. All patients were incontinent despite maximal anticholinergics and frequent intermittent catheterization. Fluorourodynamics were performed before surgery and approximately 2 months post-operatively.

Results:

Bladder capacities were very low pre-operatively at 120 cc (65-183). The compliance was similarly poor at 3.26 (1.58-9.15). Vesicoureteral reflux was present in 7 renal units. After surgery and botox, the volumes increased to 286 cc (120-457) ($p < 0.001$), while the compliance improved to 9.83 (4.44-21.76) $p = 0.06$. Reflux resolved in two units. Five patients achieved continence but remained on their anticholinergic medications. There were no botox related complications.

Conclusions:

The addition of botox injections to the remaining detrusor muscle is well tolerated and may improve outcomes for detrusor myectomy.