Different Injection Number of the Same Dose of Botulinum Toxin A on Overactive Bladder Syndrome

This study is currently recruiting participants. (see Contacts and Locations)

Verified April 2014 by *Buddhist Tzu Chi General Hospital*

Sponsor:
Buddhist Tzu Chi General Hospital

Information provided by (Responsible Party):
Hann-Chorng Kuo, Buddhist Tzu Chi General Hospital

ClinicalTrials.gov Identifier:
NCT01657409

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History of Changes

Purpose

Overactive bladder (OAB) is a symptom syndrome characterized by urgency frequency with or without urge urinary incontinence (UUI) that may affect the patients' quality of life. Current medical treatments are usually unsuccessful in completely eradicating urgency sensation. Intra-detrusor injection of botulinum toxin A (BoNT-A) modulates the release of neurotransmitters from sensory nerve endings and effectively modulates the inflammatory process mediated by nociceptive afferent nerve dysfunction. Satisfactory clinical results were achieved with intravesical BoNT-A injection, which increased bladder capacity and decreased urgency sensation in patients with neurogenic or idiopathic detrusor overactivity (NDO, IDO). Excellent results were achieved with injection of either 100 U or 200 U of BoNT-A. Episodes of frequency, urgency, and UUI were reduced, maximal cystometric capacity increased, maximal detrusor pressure (Pdet) decreased, and the quality of life index also improved significantly. However, post void residual (PVR) volume increased significantly and some patients required clean intermittent catheterization (CIC) to evacuate the PVR. Dose-related adverse events (AE) increased with increasing dose of BoNT-A. Therefore, adjustments of the BoNT-A dose and sites of injection might minimize the de novo AE and help to maintain success rates.

Condition	Intervention	Phase
Overactive Bladder	Drug: BoNT-A (10 injection) Drug: BoNT-A (20 injection) Drug: BoNT-A (40 injection)	Phase 2

Study Type: Interventional

Study Design: Allocation: Randomized
Endpoint Classification: Efficacy Study
Intervention Model: Parallel Assignment
Masking: Single Blind (Subject)
Primary Purpose: Treatment

Official Title: Comparison of the Therapeutic Effects of Different Injection Number of the Same Dose of Botulinum Toxin A on Overactive Bladder Syndrome

Resource links provided by NLM:

MedlinePlus related topics: Botox Overactive Bladder

Drug Information available for: Abobotulinumtoxina

U.S. FDA Resources

Further study details as provided by Buddhist Tzu Chi General Hospital:

Primary Outcome Measures:

- Global response assessment (GRA) of satisfaction by the patient [Time Frame: 2 weeks after initial treatment] [Designated as safety issue: Yes]

  GRA (-3, -2, -1, 0, +1, +2, +3) of satisfaction by the patient
  - GRA≥+1: Respond
  - GRA≤0: Non-respond

Secondary Outcome Measures:

- Voiding and urodynamic parameters [Time Frame: 2 weeks after the initial treatment day] [Designated as safety issue: Yes]
  - Overactive bladder symptom score (OABSS)
  - Urgency severity score (USS)
  - Urgency urinary incontinence (UUI)/3 days
  - Urodynamic parameters
  - Functional bladder capacity (FBC)
  - Maximum flow rate (Qmax)
  - Postvoid residual volume (PVR)

Estimated Enrollment:	90
Study Start Date:	August 2012
Estimated Study Completion Date:	June 2014
Estimated Primary Completion Date:	June 2014 (Final data collection date for primary outcome measure)

Arms	Assigned Interventions
Experimental: BoNT-A (10 injection) 100 U in 10ml, 1.0ml for each injection, totally 10 injections at bladder body	Drug: BoNT-A (10 injection) BoNT-A 100 U 10 injections Other Name: Botulinum Toxin A (Botox)
Experimental: BoNT-A (20 injections) 100 U in 10ml, 0.5ml for each injection, totally 20 injections at bladder body	Drug: BoNT-A (20 injection) BoNT-A 100 U 20 injections Other Name: Botulinum Toxin A (Botox)
Experimental: BoNT-A (40 injections) 100 U in 10ml, 0.25ml for each injection, totally 40 injections at bladder body	Drug: BoNT-A (40 injection) BoNT-A 100 U 40 injections Other Name: Botulinum Toxin A (Botox)

Detailed Description:

This study was designed as a single blind, randomized, parallel, actively controlled trial. The urodynamic DO confirmed patients were randomly assigned to receive injection of onabotulinumtoxinA 100 U (BoNT-A, Allergan, Irvine, California, USA), which was reconstituted to 10 ml with normal saline for suburothelial injections, in one of the three groups with the following injection number: (A) 100 U in 10ml injections, 1.0ml for each injection, totally 10 injections at bladder body (B) 100 U in 10ml, 0.5ml for each injection, totally 20 injections at bladder body, (C) 100 U in 10ml, 0.25ml for each injection, totally 40 injections at bladder body. Permuted block randomization was used for this trial. All treatments were evaluated at baseline and the primary end-point at 3 months.

The inclusion criteria were patients of either gender, aged 20 years or more, with urodynamic DO and at least one episode of urgency (urgency severity scale, USS≥2) or UUI per day as recorded in the 3-day voiding diary. Patients with neurogenic bladder, urodynamically confirmed bladder outlet obstruction, prior pelvic surgery, anti-incontinence surgery or urinary tract infection (UTI, white blood cell(WBC)>10/high power field (HPF) in urinalysis) were excluded. Informed consent was obtained from all patients before randomization. This study should be approved by the Institution Review Board and Ethics Committee of the hospital.

All patients had been managed with behavioral modification and treated with a certain number of antimuscarinics for more than 4 weeks before they were enrolled into this trial. Antimuscarinics was discontinued on the day of screening to wash out the remaining effect and obtaining a voiding diary that may reflect the true bladder condition.

The injection method for each patient was not recorded in the operation note and the study nurse who controlled the outcome measures was blinded to the treatment assignment. All procedures were performed transurethrally under intravenous general anesthesia in the operation room. Anticoagulant was discontinued 1 week prior to onabotulinumtoxinA treatment. The bladder volume was kept at 100-150 ml and the blood vessels were avoided during injections. An indwelling Foley catheter was placed in the bladder overnight and the patients were discharged the next morning. Broad-spectrum prophylactic antibiotics were given postoperatively for 3 days. Patients who developed acute urinary retention (AUR) or PVR volumes greater than 250 ml were advised to perform CIC periodically to evacuate their bladders. The patients were monitored at the outpatient clinic regularly for upto 24 months until symptoms returned to baseline levels.

Videourodynamic study was routinely performed at baseline, 3 and 6 months to measure urodynamic variables and detecting vesicoureteral reflux. The measured urodynamic variables included: maximum flow rate (Qmax), PVR, cystometric bladder capacity (CBC), detrusor pressure at Qmax (Pdet) and voiding efficiency (VE). The procedure and definition of videourodynamic study were in accordance of the recommendations of the International Continence Society.

▶ Eligibility

Ages Eligible for Study:	20 Years to 90 Years
Genders Eligible for Study:	Both
Accepts Healthy Volunteers:	No

Criteria

Inclusion Criteria:

- The inclusion criteria were patients of either gender, aged 20 years or more, with urodynamic DO and at least one episode of urgency (urgency severity scale, USS≥2) or UUI per day as recorded in the 3-day voiding diary. Patients with neurogenic bladder, urodynamically confirmed bladder outlet obstruction, prior pelvic surgery, anti-incontinence surgery or urinary tract infection (UTI, white blood cell (WBC) >10/high power field (HPF) in urinalysis) were excluded. Informed consent was obtained from all patients before randomization. This study should be approved by the Institution Review Board and Ethics Committee of the hospital.

Exclusion Criteria:

- Use of antimuscarinic agent and effective in treatment of lower urinary tract symptoms
- Patients with severe cardiopulmonary disease and such as congestive heart failure, arrhythmia, poorly controlled hypertension, not able to receive regular follow-up
- Patients with bladder outlet obstruction on enrollment
- Patients with postvoid residual > 150ml
- Patients with uncontrolled confirmed diagnosis of acute urinary tract infection
- Patients have laboratory abnormalities at screening including:
- Alanine aminotransferase (ALT)> 3 x upper limit of normal range
- Aspartate aminotransferase (AST)> 3 x upper limit of normal range
- Patients have abnormal serum creatinine level > 2 x upper limit of normal range
- Patients with any contraindication to be urethral catheterization during treatment
- Female patients who is pregnant, lactating, or with child-bearing potential without contraception.
- Myasthenia gravis, Eaton Lambert syndrome.
- Patients with any other serious disease considered by the investigator not suitable for general anesthesia or in the condition to enter the trial Patients participated investigational drug trial within 1 month before entering this study

Contacts and Locations

Choosing to participate in a study is an important personal decision. Talk with your doctor and family members or friends about deciding to join a study. To learn more about this study, you or your doctor may contact the study research staff using the Contacts provided below. For general information, see Learn About Clinical Studies.

Please refer to this study by its ClinicalTrials.gov identifier: NCT01657409

Contacts

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Locations

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Buddhist Tzu Chi General Hospital **Recruiting**

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Sponsors and Collaborators

Buddhist Tzu Chi General Hospital

Investigators

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More Information

Publications:

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Keywords provided by Buddhist Tzu Chi General Hospital:
botulinum toxin
detrusor overactivity

Additional relevant MeSH terms:

Urinary Bladder, Overactive
Lower Urinary Tract Symptoms
Signs and Symptoms
Urinary Bladder Diseases
Urologic Diseases
Urological Manifestations
Botulinum Toxins
Botulinum Toxins, Type A

Anti-Dyskinesia Agents
Central Nervous System Agents
Neuromuscular Agents
Peripheral Nervous System Agents
Pharmacologic Actions
Physiological Effects of Drugs
Therapeutic Uses

ClinicalTrials.gov processed this record on May 31, 2015