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Cervical Dystonia Patient Registry for Observation of BOTOX® Efficacy (CD PROBE): Interim Results of Patient-Reported Outcomes

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INTRODUCTION

- Cervical dystonia (CD) is a chronic neurologic disorder manifested by sustained, involuntary contractions of cervical musculature, resulting in pain and abnormal movements or postures of the head, neck, and shoulders.[1]
- Impaired neck mobility, chronic pain, and a reduction in patient self-image may adversely impact quality of life.[2]
- OnabotulinumtoxinA (BOTOX®, Allergan Inc.) is the standard of care for relief of CD-related abnormal movements, posture, and pain,[3] yet clinical questions need to be answered to optimize treatment.
- CD PROBE (Cervical Dystonia Patient Registry for Observation of BOTOX® Efficacy) is a multicenter, prospective, observational study designed to capture data on the clinical presentation of CD, dosing of onabotulinumtoxinA, and treatment outcomes.
- Assessment of patient-reported outcomes (PROs) is important in evaluating the overall effectiveness of treatment in a chronic condition such as CD, where relief of patient symptoms to improve quality of life is the major goal of therapy.

OBJECTIVE

- Report interim analyses of PROs after repeat injections of onabotulinumtoxinA in subjects enrolled in CD PROBE.

METHODS

Study Design

- A multicenter, prospective, observational study of subjects with CD treated with onabotulinumtoxinA (ClinicalTrials.gov, NCT00836017).
- Subjects were administered 3 injections separated by >90 days.
  - Dose and treatment intervals were based on standard of care for the physician practice.
- Assessments were made at baseline (injection 1) and 4–6 weeks after each injection (peak effect).
- Scales used to assess PROs: Cervical Dystonia Impact Profile (CDIP-58) and Patient Global Impression of Change (PGIC).

Patients

- Inclusion criteria
  - New to principal investigator practice and/or new to botulinum toxin therapy, or if previously participated in a botulinum toxin clinical trial, must not have received botulinum toxin for ≤16 weeks
  - Informed consent was obtained from all subjects
- Exclusion criteria
  - Planning elective surgery during the observational study period
  - Pregnant, nursing, or planning a pregnancy

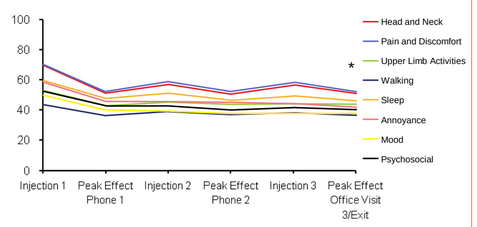
RESULTS

Table. Baseline Demographic and Disease Characteristics

Enrollment as of October 11, 2010, N	499
Females, n (%)	384 (77)
Race/ethnicity, n (%)	
Asian	10 (2)
Black	6 (1.2)
Hispanic	13 (2.6)
Native American	1 (0.2)
Other	1 (0.2)
White	468 (93.8)
Age, y, mean ± SD	57.5 ± 14.3
BMI, kg/m^2, mean ± SD	26.3 ± 5.5
Age at symptom onset, y, mean ± SD	48.2 ± 16.1
Time from CD onset to CD diagnosis, y, mean ± SD	5.4 ± 8.6
Predominant feature of CD, % (CI)	
Torticollis	44.2 (39.9, 48.6)
Lateralcollis	42.2 (37.9, 46.6)
Retrocollis	5.9 (4.1, 8.3)
Anterocollis	4.7 (3.1, 6.9)
Other	3.0 (1.9, 5.0)
Time to CD treatment after diagnosis, y, mean ± SD	1.0 ± 3.7
Received botulinum toxin in the past, n (%)	
No	321 (64.5)
Yes	177 (35.5)
TWSTRS scores, mean ± SD (range)	n=494
Severity	16.9 ± 5.5 (1-32)
Disability	10.7 ± 6.5 (0-30)
Pain	10.4 ± 5.2 (0-20)
Total	38.0 ± 13.4 (4-77)
Physician assessment of CD severity, %	n=493
Mild / Moderate / Severe	40.2 / 48.7 / 11.2

CD = cervical dystonia; CI = confidence interval; SD = standard deviation; TWSTRS = Toronto Western Spasmodic Torticollis Rating Scale.

Figure 1. Mean Score of Each CDIP-58 Subscale by Patient Visit (n=111)

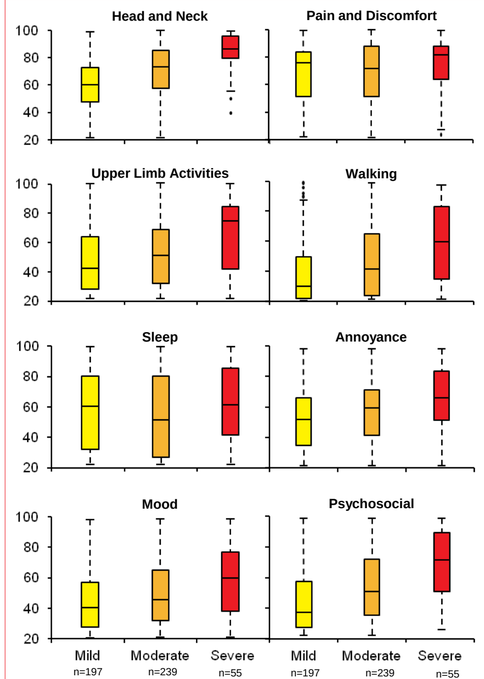


*P<0.05 for all subscales vs baseline.

OnabotulinumtoxinA dosage

- The mean ± standard deviation (SD) dose at injection 1 was 175.6 ± 104.9 Units.
- The mean ± SD interval between injection 1 and 2 was 100.4 ± 22.9 days and 100.0 ± 22.3 days between injection 2 and 3.

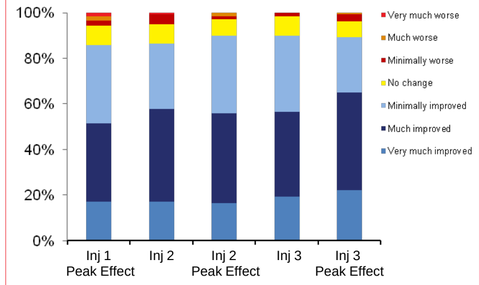
Figure 2. CDIP-58 Subscales by Physician-Assessed CD Severity at Baseline (n=491)



Black horizontal lines are median values; upper and lower box boundaries are inter-quartile ranges.

- CDIP-58 subscale scores were significantly higher with increasing physician-assessed severity (at baseline) for Head and Neck (P<0.0001), Upper Limb Activities (P<0.0001), Walking (P<0.0001), Annoyance (P=0.0002), Mood (P=0.0021), and Psychosocial (P<0.0001) (**Figure 2**).

Figure 3. Patient Global Impression of Change Assessments in Patients With Data at Each Visit (n=140)



Inj = injection.

- At the peak effect evaluation following injection 1, 85.7% of subjects had some improvement in their general assessment of their health and 89.3% reported some improvement at injection 3 peak effect. **(Figure 3)**
- At injection 1 peak effect, 51.4% (72/140) of patients reported they were "much improved" or "very much improved." This increased at injection peak 3 to 65.0% (91/140). **(Figure 3)**
- At injection 1 peak effect, 5.6% (8/140) of patients reported some worsening, which declined to 3.6% (5/140) at injection 3 peak effect. **(Figure 3)**

CONCLUSIONS

- Disease-specific quality of life, as assessed by CDIP-58, improved following 3 injections of onabotulinumtoxinA.
- Physician-assessed severity of CD was comparable to baseline scores of most subscales on CDIP-58.
- Most subjects (>80%) reported their general health improved following each injection of onabotulinumtoxinA.
- Improvement in symptoms was sustained over the course of 3 injections of onabotulinumtoxinA given at intervals of 100 days.
- OnabotulinumtoxinA was well tolerated with repeat injections, with no serious treatment-related adverse events.

References

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The potency units of onabotulinumtoxinA are specific to the preparation and assay method utilized. They are not interchangeable with other preparations of botulinum toxin products and, therefore, units of biological activity of onabotulinumtoxinA cannot be compared with or converted into units of any other botulinum toxin products assessed with any other specific assay method.

DISCLOSURE

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