normal and abnormal limbs is as follows: the mean proximal cross-sectional area of the median nerve and carpal tunnel, and their ratio of electrodiagnostically normal limbs were 10.2 6 mm^2, 200.85 mm^2, and 5.16%, respectively, whereas those of abnormal limbs were 14.85 mm^2, 218.50 mm^2, and, 6.95%, respectively, which show statistically significant differences ($P<.05$). Distal measurements were 10.38 mm^2, 144.70 mm^2, and 7.17% in normal limbs; and 11.79%, 154.32 mm^2, and 7.79% in abnormal limbs, which showed an increase in cross-sectional area of median nerve and the carpal tunnel in abnormal limbs but with statistical significance only in the cross-sectional area of the median nerve ($P<.05$).

Conclusions: Increases in cross-sectional area of both median nerve and carpal tunnel itself were observed in patients diagnosed with carpal tunnel syndrome. Also, the lack of a significant difference between normal and lesional limbs on distal ultrasonographic measurements along with the fact that the cross-sectional ratio of the median nerve in the carpal tunnel is larger distally shows that the median nerve is frequently compressed at distal regions.

Poster 129

Sustained Efficacy With IncobotulinumtoxinA (XEOMIN; botulinum neurotoxin type A, free from accessory proteins) for up to 89 Weeks in Upper Limb Poststroke Spasticity.

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Disclosures: P. Kanovsky, none.

Objective: To assess the long-term efficacy and safety of incobotulinumtoxinA in the treatment of upper limb poststroke spasticity (ULPSS).

Design: Open-label extension period after a ≥20-week, double-blind, placebo-controlled main period with 1 set of incobotulinumtoxinA injections.

Setting: 23 European centers.

Participants: Patients with ULPSS who completed the main period of the study.

Interventions: Up to 5 sets of incobotulinumtoxinA injections administered at ≥12-week intervals over 48-69 weeks.

Main Outcome Measures: Ashworth Scale, Disability Assessment Scale, and global assessments.

Results: 145 patients entered the extension period, and 120 completed the period. Over the main period and extension period, incobotulinumtoxinA was given for ≤89 weeks (mean duration of exposure in extension period, 61.2±19.97 weeks), with most patients (76.6%) receiving ≥3 injection sessions during the extension period. By using individualized dosing schedules (median dose per injection interval, 385-400 U), consistent with recommendations, incobotulinumtoxinA provided sustained efficacy with each repeated injection. Between the fifth injection session and a control visit 4 weeks later, 48.8%-76.9% of patients achieved a ≥1-point improvement in the Ashworth Scale (forearm pronator, 48.8%; thumb flexor, 64.9%; finger flexor, 76.9%; elbow flexor, 60.0%; wrist flexor, 66.3%; $P<.0001$ for all), which was accompanied by improvements in the principal therapeutic domains of Disability Assessment Scale, with 56.3%, 43.3%, 49.5%, and 52.9% of patients showing a ≥1-point improvement at 4 weeks after the second, third, fourth, or fifth injection session, respectively, when compared with scores at the injection sessions themselves ($P<.0001$ for all). Efficacy was rated as "good" or "very good" by ≥68.8% of patients throughout the extension period. Most adverse events were mild to moderate in severity. Investigators rated tolerability as "good" or "very good" for >90% of patients after all injection sessions.

Conclusions: Repeated incobotulinumtoxinA injections demonstrated sustained efficacy and were well tolerated in the long-term treatment of ULPSS.

Poster 130

Sustained Efficacy of IncobotulinumtoxinA (XEOMIN; botulinum neurotoxin type A, free from accessory proteins) in Cervical Dystonia Demonstrated by Investigator- and Patient-rated Outcomes.

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Disclosures: D. Dressler, Allergan, consulting fees or other remuneration; Eisai, consulting fees or other remuneration; Ipsen, consulting fees or other remuneration; Merz, consulting fees or other remuneration.

Objective: To assess the long-term efficacy and tolerability of incobotulinumtoxinA in cervical dystonia (CD) in a setting similar to clinical practice.

Design: Prospective, multicenter, open-label, single-arm phase IV study (≤121 weeks duration).

Setting: 17 centers across Germany.

Participants: Patients with CD.

Interventions: Patients received up to 5 injection series (IS) of incobotulinumtoxinA. The interval between each injection session was 10-24 weeks, depending on the clinical need. Investigators were free to choose the pattern of muscles injected, the number of injection sites, and the total dose injected (maximum, 300 U).

Main Outcome Measures: Toronto Western Spasmodic Torticollis Rating Scale (TWSTRS), Dystonia Discomfort Scale (DDS) (a newly developed patient diary), Global Assessment of Efficacy (as rated by the investigator), Patient Evaluation of Global Response, Investigator Global Assessment of Tolerability.

Results: Seventy-six patients were enrolled. Nineteen patients were treatment naïve to botulinum toxin, and 57 had received previous injections of botulinum neurotoxin type A. Mean change in TWSTRS-Total score from study baseline to 4 weeks after each IS was –11.7 (IS 1), –13.6 (IS 2), –13.4 (IS 3), –13.9 (IS 4), and –14.3 (IS 5) (data of Full Analysis Set; missing values imputed with LOCF). Similar improvements in DDS score were observed. The absolute change in DDS score was stable across all IS. After each IS, up to 81% of investigators rated efficacy as "good" or "very good." The proportion of patients rating global response as +2 (moderate improvement) or greater was 77.6% (IS 1), 67.1% (IS 2), 72.4% (IS 3), 64.5% (IS 4), and 78.9% (IS 5). The Investigator Global Assessment of Tolerability was reported as "good" or "very good" for most patients.

Conclusions: IncobotulinumtoxinA showed sustained efficacy and was well tolerated for the treatment of CD in a study with a

duration up to 121 weeks. Clinical measures of efficacy were supported by investigator- and patient-rated outcomes.

Poster 131

IncobotulinumtoxinA (XEOMIN; botulinum neurotoxin type A, free from accessory proteins): Flexibility of Dosing and Injection Intervals in Cervical Dystonia.

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Disclosures: V. H. Evidente, Merz, consulting fees or other remuneration; Teva, consulting fees or other remuneration; Ipsen, consulting fees or other remuneration; Allergan, research grants; Allon, research grants; UCB, research grants.
Objective: To assess repeated incobotulinumtoxinA injections at 2 dose levels and variable ≥6-week intervals for the treatment of cervical dystonia.
Design: A ≤20-week, placebo-controlled, randomized, double-blind trial (n=233) with a 48-week extension period (n=214).
Setting: 37 U.S. centers.
Participants: Patients with cervical dystonia.
Interventions: Patients received placebo or a set of 120 or 240 U of incobotulinumtoxinA injections. In the extension period, the patients were rerandomized to 120 or 240 U of incobotulinumtoxinA (up to 5 injection sessions at ≥6-week intervals at the physician's discretion based on the patient's symptoms).
Main Outcome Measures: Toronto Western Spasmodic Torticollis Rating Scale (TWSTRS) and adverse events (AE).
Results: In 214 patients, incobotulinumtoxinA (120 or 240 U) significantly improved the mean TWSTRS-Total score 4 weeks after each injection session ($P<.001$) regardless of botulinum toxin pretreatment; 22.5% of patients had median injection intervals ≤10 weeks; 24.6% had >10 to ≤12 weeks; 19.4% had >12 to ≤14 weeks; and 33.5% had >14 weeks. In all groups, TWSTRS-Total score was significantly improved at 4 weeks after each injection session ($P<.001$). No difference in the mean improvement of TWSTRS-Total score was noted between dosing groups and injection interval groups. Overall, the most common AEs were dysphagia, neck pain, and muscular weakness. There was no effect of injection interval on the overall occurrence of AEs. Moreover, AE incidences tended to decrease, which suggests that repeated doses had no cumulative effect.
Conclusions: Repeated incobotulinumtoxinA injections at ≥6-week intervals demonstrated sustained efficacy for cervical dystonia. These results indicate the potential of effective flexible dosing regimens for individual patients.

Poster 132

Does Chemodenervation of the Scalene Muscles Improve Blood Flow in Patients With Thoracic Outlet Syndrome?

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Disclosures: A. C. Hsu, none.
Objective: Assessment of central and peripheral blood flow patterns in patients before and after chemodenervation of the scalene muscles.
Design: Retrospective chart review from 2008-2010.
Setting: University-based, tertiary care center, physical medicine and rehabilitation clinic.
Participants: Patients referred for assessment of thoracic outlet syndrome.
Interventions: Blood flow studies before and after chemodenervation of the anterior and middle scalene muscles.
Main Outcome Measures: Resting segmental artery pressures (brachial, radial, ulnar), photoplethysmography, brachial artery pressures, and subclavian artery diameter and blood flow velocities (duplex sonography) at rest and with provocative maneuvers.
Results: A total of 72 limbs were studied in 37 patients (10 men, 27 women; average age 51.5 years [range, 30-73 years]). Eighteen patients had abnormal findings before the scalene blocks (14 with photoplethysmography abnormalities, 7 with subclavian artery velocity changes, 3 with subclavian artery diameter changes, and 1 with brachial artery pressure changes, with provocative maneuvers. After the scalene blocks, 14 of 18 patients with abnormalities had follow-up vascular studies. Ten of these 14 patients had resolution of the abnormalities after the scalene blocks.
Conclusions: Our data demonstrate that chemodenervation of the scalene muscles can potentially improve blood flow in patients with thoracic outlet syndrome. The use of photoplethysmography and duplex ultrasonography combined with chemodenervation appears to be a useful tool in assessing and treating thoracic outlet syndrome.

Poster 134

Association of Regional Body Pain With Accelerometer-based Physical Activity Measures in a National Health and Nutrition Examination Survey.

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Disclosures: M. Goldin, none.
Objective: To study the association of regional body pain (RBP) with objective measures of physical activity.
Design: Cross-sectional population-based study.
Setting: Population-based survey.
Participants: 6796 subjects from NHANES (2003-2004).
Interventions: NHANES data were obtained from the CDC. The statistics package R 2.11, SAS 9.2, and custom SAS macros were used for exploratory, complex survey analyses, and model selection.
Main Outcome Measures: Summary measures of activity were calculated and fitted as the response variable in a series of weighted linear regression models. Semiautomated model selection used a combination of backward and forward model selection. Demographic, social history, medical comorbidity predictors are described elsewhere. RBP includes pain in the past month that lasted longer than 1 month in 10 regions (eg, head, knee), and pain in the last 3 months in 3 regions: headache and/or migraine, neck, and low back.
Results: Estimates are significant at $P<.05$, all confidence inter-