Analyses of dose-ranging and contraction patterns highlight the latest data on botulinum toxins.

COMPARING 1:1.5 DOSE-CONVERSION RATIO FOR INCOBOTULINUMTOXINA AND ONABOTULINUMTOXINA IN GLABELLAR FROWN LINES

Increasing the dose of either incobotulinumtoxinA or onabotulinumtoxinA above the 20 U recommended for glabellar frown lines may not yield the desired effect, according to findings from a new study. To investigate the impact of using 50 percent higher dose of onabotulinumtoxinA, researchers enrolled patients with symmetrical moderate to severe glabellar frown lines and treated them with two injections in the corrugator muscles of either 4U incobotulinumtoxinA or 6U onabotulinumtoxinA (equivalent to 20 and 30 U, respectively, if corrugator muscles on both sides and the procerus are treated). They then assessed glabellar frown line severity from standardized photographs every four weeks for four months and, in a subset of subjects, for up to six months post-treatment. The primary efficacy endpoint was the percentage of subjects with an improvement of greater than one point on the five-point scale at week four. Response rates showed no added benefit of a 50 percent higher dose of onabotulinumtoxinA at all phases of post-treatment.


MECHANISMS PROPOSED FOR FACIAL BLANCHING FROM NEUROTOXINS

While facial blanching with neurotoxins therapy has been described in literature, a new study suggests that skin sites injected with botulinum toxins may not experience the expected decrease in cutaneous vessel tone associated with higher body temperature. After reviewing normal physiologic responses to heat stress and the role of cholinergic neurotransmission in modulating cutaneous vascular tone, investigators reported a case of a 32-year-old woman who complained of white patches on her forehead at sites of abobotulinumtoxinA injections administered two weeks before presentation. They found that acetylcholine is a primary mediator of cutaneous vasodilatation; certain co-transmitters modulate its effect. Chemical denervation by botulinum toxin appears to interfere with these normal signaling pathways and can provide symptomatic relief to patients with undesirable facial flushing. Conversely, the authors noted, it may create an unwanted cosmetic effect in patients who desire isolated muscle paresis.


ONABOTULINUMTOXINA ASSOCIATED WITH SUSTAINED EFFECTS

Treatment of the glabellar lines with onabotulinumtoxinA provides long-lasting results of up to four months, according to a recent study. Researchers analyzed data from four trials with 621 onabotulinumtoxinA-treated (20U) patients; 84.2 percent were identified as day-30 responders on the Facial Wrinkle scale (FWS) at maximum contraction. Pooled median duration of effect for day-30 responders was 120 days for FWS at maximum contraction and 131 days for FWS at repose. Higher Day-30 SGA scores were correlated with a greater duration of effect on dynamic, but not static lines. Results indicated that more than 50 percent of respondents demonstrated a sustained clinical effect for four months. The researchers also found that patient satisfaction increased with duration of effect.


EVALUATING GLABELLAR CONTRACTION PATTERNS

Classifying glabellar wrinkles into contraction “patterns” allows for more accurate treatment with botulinum toxin, new findings suggest. Investigators retrospectively analyzed pairs of photographs (at rest and under contraction) from...
two groups. While the researchers observed some interper-sonal differences in facial animation, the results confirmed
the five glabellar contraction patterns, which include “U,”
“V,” “convergent arrows,” “omega,” and “inverted omega.”
Also, each individual’s initial pattern re-appeared upon
waning of the toxic effect. Muscles not falling under these
patterns were largely spared or injected with lower doses
for more effective and natural results.


ONABOTULINUMTOXINA DOSE-RANGING FOR
HYPERDYNAMIC PERIORAL LINES
OnabotulinumtoxinA provides significant reductions in
perioral lines (POL) severity and high levels of patient
satisfaction, according to new research. Female patients
received injections of onabotulinumtoxinA at four sites
totaling 7.5 U or 12.0 U. They returned at weeks two,
four, eight, 12, 16, and 20, at which researchers assessed
point POL severity and total lip satisfaction (TLS). Results
showed that POL severity was reduced through week 20
for 12 U. Additionally, POL reduction for 7.5 U persisted
until week 16. Responder rates did not differ until 12
weeks (77 percent for the 12.0 group as compared to 36
percent for the 7.5 U group). Moreover, in the 12 group,
patient-assessed TLS was improved at all time points for
both groups except at week 20. The researchers observed
that most adverse events were mild to moderate in severe-
ity and typical for onabotulinumtoxinA treatment in the
lips, and the incidence was dose-dependent. The study
concluded that lack of dose response and fewer adverse
events suggest that treatment of hyperdynamic POLs with
7.5 U appears adequate for up to 16 weeks.


INCOBOTULINUMTOXINA FOUND EFFECTIVE
FOR AXILLARY AND PALMAR HYPERHIDROSIS
IncobotulinumtoxinA has been found to have positive
effects on axillary hyperhidrosis in a recent study, while also
confering benefits when used in combination with a type
B botulinum toxin for palmar hyperhidrosis. A total of 84
patients, 58 with axillary and 26 with palmar hyperhidro-
sis, were included in this open study. Researchers injected
axillae with $107 \pm 22$ U of incobotulinumtoxinA and palms
with $213 \pm 19$ U. They also injected palms with $264 \pm 60$
U botulinum toxin B over the thenar eminences to avoid
muscle weakness. At three-week follow-up post-treatment,
all patients treated for axillary hyperhidrosis reported sat-
isfaction in self-ranking, evaporation decreased by greater
than 40 percent, and Dermatology Life Quality Index (DLQI)
score improved from 12.0 to 1.7. In the palmar group, 95
percent of patients were satisfied, with more than 50 per-
cent reporting decreased DLQI score improvement from
10.3 to 1.2. Only one patient in the palmar group experi-
enced muscle weakness, according to investigators.


ABOBOTULINUMTOXINA WELL TOLERATED
AND EFFECTIVE IN SKIN OF COLOR
Tolerability and effectiveness of abobotulinumtoxinA for gla-
bellar lines is similar in patients with skin of color and white
patients, according to new findings. Investigators used pooled
safety data from six clinical trials from which were derived
a safety population (1,869 white patients and 472 patients
with skin of color), an efficacy population for a comparison of
fixed-dose abobotulinumtoxinA 50 U in white patients and
patients with skin of color, and an efficacy population for a
comparison of abobotulinumtoxin A adjusted to muscle mass
in white patients and those with skin of color. Adverse event
rates were similar between the two groups, as was onset of
effect; however, the response rate 30 days after treatment was
greater in patients with skin of color than in white patients.


BY THE NUMBERS

67. The percentage of resident respondents who had for-
mal lectures focusing on cosmetic dermatology, according
to new survey data. Lecture topics reported by more than 50
percent of respondents included botulinum toxin injection,
lasers, soft tissue augmentation, chemical peels, and sclero-
therapy. Topics such as dermabrasion, liposuction, and scar
revision were less commonly taught. The most commonly
encountered and performed procedures were botulinum
toxin injection and lasers (100 percent), followed by soft tis-
sue augmentation (98.8 percent), and encounter both chem-
ical peels and sclerotherapy (95.4 percent). Varying widely,
however, was resident experience performing procedures as
the first assistant or as the first surgeon varied widely. While
the researchers noted several limitations, they suggest that
these results highlight the challenge for programs to find a
balance between insufficiency and overemphasis.