

Dual Tx approach proves successful on facial rhytides



Dr. Zimbler

*By Anne Scheck
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New York — Crow's feet can be improved significantly with a combined approach that uses botulinum toxin prior to laser resurfacing, according to researchers at Beth Israel Medical Center, New York.

The fusion of pretreatment with botulinum toxin-A (Botox), followed by laser resurfacing, helps eradicate time etched rhytides especially those laugh lines around the eyes.

In a prospective, randomized, blinded study, substantial improvement was seen in patients injected with botulinum toxin-A at certain facial sites. "The results were clinically most significant in the crow's feet region," said Marc Zimbler, M.D.

As a result of the study, he and his colleagues at Beth Israel changed their preferred protocol — in some cases, anyway.

"We do recommend pretreatment of movement-associated rhytides with botulinum toxin-A prior to laser resurfacing, intervention," said Dr. Zimbler, director, facial plastic and reconstructive surgery, department of otolaryngology, Beth Israel Medical Center, New York. Moreover, he now urges continued use of botulinum toxin-A, too, for postoperative maintenance purposes, he noted.

Wrinkle reduction reports included one article in *Facial Plastic Times* practically asserting a virtual showdown among products that augment facial dermis.

Facial laser resurfacing and chemodenervation with botulinum toxin-A produced a good track record in published reports, but they have been used independently, for the most part, noted Dr. Zimbler.

Laser exfoliation has become the treatment of choice for fine-to-medium rhytides, he added. But less-than-optimal results are achieved at sites of time-ingrained facial fissures, such as crow's feet around the eyes, brow furrows of the forehead and frown lines around the mouth.

All three are subject to continuous dynamic muscle activity, he observed, and can be clinically challenging to remedy.

No definitive results

Some accounts in the literature — trickling in very recently — suggest these two therapies, when used back-to-back, improve laser resurfacing and lengthen the duration of the favorable result. That's important for patient satisfaction, particularly at the subsites the investigators chose for scrutiny: crow's feet, horizontal forehead furrows, and glabellar frown lines. However, no medical investigation appears to have been conducted showing definitively whether the combination yielded good or long-lasting results, Dr. Zimbler noted.

So, Dr. Zimbler and his colleagues decided to do that study, he explained — to determine, in a scientifically confirming way, if combining both methods of nonsurgical facial rejuvenation yielded a more dramatic result.

Why begin with botulinum toxin-A? Chemodenervation with botulinum toxin-A has grown into the gold standard in the treatment of such "hyperkinetic" facial lines and furrows, Dr. Zimbler said. And the researchers wanted to create an immobilized wound environment, in areas of normally increased dynamic muscle activity, during collagen remodeling and re-epithelialization. This was the basis of the comparison for contrasting results, he explained.

To avoid potential study flaws that could occur as a result of natural patient diversity, the investigation used the same patient for each comparison: each participant had one side of the face, at specific anatomic subsites, injected with botulinum toxin-A one week prior to laser resurfacing. Following injection patients underwent cutaneous laser exfoliation with either a CO2 laser (a Sharplan Silk-touch model) or an erbium dual-mode laser (by Sciton).

Their findings suggest that wound immobilization improves overall cosmetic outcome, Dr. Zimbler said. The study revealed that hyperdynamic facial rhytides responded well to the combined approach, according to the results of the postlaser resurfacing comparisons. Ten female patients were enrolled in the study; ranging in age from 37 to 50, with Fitzpatrick skin types II to IV, and Dr.



Patient presented with glabellar frown lines (left). The postlaser six-month result (right) shows the patient's glabellar frown line appearance after receiving the botulinum toxin A injection. (Photographs courtesy of Marc S. Zimbler, M.D.)

Glogau photoaged scale II to III. Five patients underwent laser resurfacing with a CO2 laser and five with an Erbium:YAG dual-mode laser. Twenty different anatomic sub-sites were treated.

All sites pretreated with botulinum toxin-A showed statistically significant improvement over the nontreated side. The crow's feet region showed the greatest improvement, Dr. Zimbler stressed, even after the effects of the botulinum toxin-A had subsided. However, a comparison of results between the two lasers revealed no statistically significant differences.

Follow-up was documented at six weeks, three months, and six months after laser resurfacing. Subjective evaluation, based on a visual analog scale, was done by a blinded in-person observer. In addition, assessment of patient photographs was performed by a blinded panel: a facial plastic surgeon, an oculoplastic surgeon, and a cosmetic dermatologist. All of the results point to the same conclusion: when it comes to crow's feet, the combined treatment approach works well, and in a way that makes a visibly dramatic change, Dr. Zimbler said. CST

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