A historical timeline in any discipline is marked by inventions or discoveries that were paradigm shifts or “game changers.” The printing press, electricity, vaccines, and space travel would be notable standouts. The timeline of cosmetic surgery has a giant blip on its trajectory in the mid 1990s for Botox (BoNTA). This was the first FDA-approved neuromodulator for the non-surgical treatment of hyperfunctional lines. Galderma’s Dysport and Merz’s Xeomin followed Allergan’s Botox Cosmetic, and there are others in the pipeline including topical formulations. The introduction and acceptance of these drugs not only changed the game, they redefined the specialty. Frequently paradigm shifts are simply an improvement of a previous method. With botulinum toxin A, there was not previous treatment. For the most part, before 1995, there was no predictable, popular surgical or non-surgical treatment for glabellar, frontalis, or lateral canthal rhytids. True, there were muscle or nerve ablation procedures, but they were certainly not mainstream. Botox also set the stage for patient acceptance of minimally invasive injection procedures. By the time the hyaluronic acid fillers gained FDA acceptance, millions of patients had already gotten over ‘needlephobia’ and accepted injectables as a mainstay of facial rejuvenation.

FROM FROZEN TO FRESH

Those of us who have been injecting botulinum toxin A for 20 years remember the patient expectations of the early years. In a word: “paralysis.” In the first decade of popular use, the intended purpose of BoNTA was to take no prisoners. This novel treatment did its job and then some. It was not hard (and still isn’t) to pick out the patients who had unnatural movement or no movement. At that time, patients expected no movement after injection. The expressionless face was everywhere from the gym to Hollywood and quickly became the fodder of many a late night talk show host.

I have injected more than 7,000 vials of BoNTA at last count (figure 1). For the first 12 years, the most commonly requested injection sites in my practice were glabella, frontalis, and lateral canthus in that order. During the last eight years or so, the overtreated frontalis has become something to avoid while the lateral can-
The thal region has gained popularity. This changed my most requested sites to glabella, lateral canthus, and frontalis in that order. Not only did frontalis injection decrease in popularity, the treatment also decreased in dosage. In the past, I routinely treated the frontalis with 20-25 “Botox Units.” I now use half of that, sometimes less. The two big reasons for this change have been the disfavor of the paralyzed face and brow droop.

It is important to differentiate between the inability to raise the brows (over-treated frontalis) and upper lid ptosis (deactivation of the levator palpebrae superioris); the latter being quite rare.

Overtreatment of the forehead in aging patients, especially females, is not a rarity. Any surgeon who performs brow lift surgery can testify that it is virtually impossible to take a relaxed photo (without brow elevation) of many females. Many women simply spend their entire waking hours with unintentional brow elevation. A small part of this may be due to inherent muscle resting tension, but a larger part is the unconscious elevation of the brows to look younger.

I keep a picture illustrating this phenomenon in my treatment rooms so there is no forgetting that it was discussed (Figure 2).

Aging patients exhibit ptotic changes of the lids and forehead as well as dermatochalasis. The sum of this is excessive forehead and lid tissue that many times places the lid skin on the patient’s lashes. If that patient lifts her (or his) forehead, the brows and lids are elevated, thus producing a younger appearance. This is the patient that is a set up for treatment failure. The ability to handle unhappy neuromodulator patients is paramount to a busy injectable practice. It is so imperative to have communication in place that covers all the common complications, sequellae, misconceptions, and inaccuracies of neuromodulator treatment. Whether it is a patient who did not get the result they anticipated, a patient who simply needs more units, or a patient who complains of headaches, all of this and much more should be covered in the informed consent, and through pre-injection staff and physician communication. Having similar details on one’s website or YouTube videos is wise.

LESS IS MORE
I am often asked “what is the biggest change you have seen with neuromodulator treatment”?

The answer is simple: less is more. As stated earlier, early adapter neuromodulator patients wanted paralysis and today’s more sophisticated patients want anything but. Most patients still want their glabellar furrows gone, but it is rare to have patients who desire a totally inactive frontalis. Many of my patients have been receiving neuromodulator injections for decades and they know exactly what

Figure 2. The top image shows the brows relaxed, revealing the true aging changes. The bottom image shows a patient with brow and upper lid aging changes intentionally elevating the brows which improves the aesthetics of the periorbital region. Taking away the ability of an aging patient to raise their brows can result in a very unhappy patient.
they want. This is a factor of experience and experimentation and now they know what works and how often to repeat it. Even my younger patients are very self-directing and present with an exact menu of how many units to use and where to use them (figure 3). Simply stated, today’s patients know what they want and what they don’t want.

Although the ability to treat and reduce hyperfunctional lines will go down in history, the other applications of botulinum toxin A will overshadow vanity in the timeline of medicine. From tennis elbow, to migraine headache, to gastric and anal sphincter treatment, and hyperhidrosis, we are just scratching the surface of useful applications. Neuromodulators indeed have been a game changer.

DISCLOSURES: Dr Niamtu is on the speaker’s bureau for Allergan and is a member of Valeant’s Advisory Board.

Figure 3. Neuromodulator treatment was totally doctor directed in the past; today’s patients are sophisticated and frequently present with their “Botox Menu.”