A flawless approach to BOTOX® injection for facial rejuvenation

Natalie Vercillo MD, Gregory Smith MD and Ryan Heffelfinger, MD

Thomas Jefferson University Hospital, Department of Otolaryngology- Head and Neck Surgery, Philadelphia, PA

The usage of onabotulinum toxin type A (BOTOX®) for reduction of glabellar rhytids was approved by the FDA in 2002 (1). Since then, the popularity of BOTOX® injection to the glabella, forehead and lateral canthus has gained widespread popularity due to its remarkable cosmetic result. In 2012, it is estimated that over 6 million BOTOX® procedures were performed in the USA alone (2,3). Due to increasing demand for this approach to facial rejuvenation, many providers are incorporating BOTOX® treatment into their practices. Though generally safe, physicians with limited BOTOX® experience are often hesitant to administer the drug due to concern of creating iatrogenic ptosis or a “frozen face” appearance. This presentation provides a flawless approach to BOTOX® treatment for the novice injector based on one facial plastic and reconstructive surgeon’s (RH) results with over one thousand patients.

Prior to any BOTOX® treatment, a consultation visit with photo-documentation is arranged to determine extent of aging. Attention is focused on the forehead and periorbital region, recognizing the most prominent rhytids (Figure 1).

Most patients require 30-40 units of BOTOX® which is injected with a 32G ½ inch needle attached to a 1 cc syringe with 4 units BOTOX® per 0.1 cc. In our experience, this concentration of BOTOX® allows for adequate precision of delivery of the drug while obviating the asymmetries that can be seen with a more concentrated solution. Placement of a vibrating distraction device in close proximity to the injection site can significantly reduce patient discomfort. For novice injectors, we also advocate marking out injection sites with a wax pen.

In our hands, best results are achieved through the following steps: First, the patient raises his or her eyebrow. A straight line approach is used with injection of 2 unit allotments into the frontalis 1-1.5 cm above the brow, in proximity to the lowest prominent forehead rhytid (Figure 2, shown in blue).

A key element in this step is to extend this horizontal line laterally near the hairline, to avoid the “Spock” brow appearance. Keeping this injection line greater than 1 cm superior to the arch of the eyebrow avoids eyelid ptosis and minimizes changes in brow positioning and asymmetry. Often this single row of injections is all that is needed. For patients with high hairlines, and males, wrinkles on the upper forehead are treated with 1 unit BOTOX® injections, in 2-4 sites as demonstrated in figure 2 (shown in purple).

Next, the glabella is addressed using 3 unit allotments, starting midline at the procerus muscle and extending laterally in each direction to complete a V shape (Figure 3, shown in purple). By injecting the corrugator muscle at its inferior margin, and remaining medial to the midpupillary line, eyebrow positioning will be preserved. Injection of the crow’s feet are always addressed when treating the forehead, both to minimize wrinkles and more importantly to minimize brow ptosis. Two to four injections of 1-2 units each are applied near each lateral canthus, ensuring that the injections stay at or lateral to the lateral orbital rim (Figure 3, shown in blue).

It is important to counsel patients on the duration of cessation of muscle function as well as the delayed onset of visible results. Most studies report glabellar and frontalis BOTOX® injections lasting up to four and six months, respectively (4). Onset of noticeable results starts around 48 to 72 hours after injection with maximal muscle cessation occurring day fourteen days post-injection. Patients are seen two weeks after injection for their touch up injection, and precise facial mapping is documented.

Facial rejuvenation through BOTOX® injections should be safe and easy. Following a few simple steps will allow even inexperienced physicians flawless results and grateful patients.

References: