# Patient Preference for Aesthetic Treatment With AbobotulinumtoxinA or OnabotulinumtoxinA on Facial Sites: A Retrospective Study

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Botulinum toxin type A (BoNTA) is used to improve the appearance of facial lines and increase overall attractiveness. Patient satisfaction is an essential measure of treatment success; however, few studies have compared the posttreatment patient approval rates of different BoNTA products. This study analyzed patient satisfaction with abobotulinumtoxinA (ABO [Dysport, Medicis Aesthetics Inc]) treatment results in comparison with prior onabotulinumtoxinA (ONA [Botox Cosmetic, Allergan, Inc]) treatment results. All participants were asked to complete an 11-question survey, which captured information regarding treatment effectiveness, onset, and duration; perceived treatment outcomes using common descriptors; and additional treatment benefits. Surveys were returned anonymously. One hundred ninety-four of 380 surveys (51%) were completed and returned. Many participants underwent BoNTA treatment of crow's-feet (n=63) or the glabella (n=36); however, relatively few participants reported treatment of the neck (n=9), forehead (n=8), and chin (n=7) areas. Seventy-one participants did not specify a treatment area. For nearly all survey questions, most responses indicated that participants did not perceive a difference between the results of ABO and ONA; those participants who did perceive a difference favored the ABO results. Although most of the surveyed patients could not distinguish between BoNTA products, there was a modest patient preference for ABO. *Cosmet Dermatol.* 2011;24:478-484.

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The use of botulinum toxin type A (BoNTA) to improve the appearance of facial lines from aging and hyperkinetic muscles continues to grow in popularity and with good reason. Improvement in facial appearance increases overall attractiveness,[1] reduces perceived age by up to 5 years,[2,3] and promotes positive effects on mood[4] and self-esteem.[5] Currently, overall patient satisfaction rates

following BoNTA treatments are high, ranging from 65% to 90% or more depending on the treatment area, dose of BoNTA, and assessment method.[2] In recognition of the importance of patient satisfaction, randomized clinical trials that are designed to assess the efficacy of BoNTA typically include patient self-assessment as a measure of treatment outcome.[6-14] High patient satisfaction also may be attributed to the high degree of safety associated with cosmetic BoNTA treatments.[15]

The first BoNTA product approved for cosmetic use (glabellar lines) in the United States was Botox Cosmetic (Allergan, Inc), which is composed of onabotulinumtoxinA (ONA), in 2002. The second product, composed of abobotulinumtoxinA (ABO), was Dysport (Medicis Aesthetics Inc), which also was approved for use in glabellar lines in 2009. Although clinical trials have demonstrated that patients generally are satisfied with the results of both products,[6,7,9-11,16] few studies have compared the patient satisfaction rates for each treatment. In one study, patients reported greater satisfaction following treatment of glabellar rhytides with ONA,[16] while another study reported no difference in patient satisfaction after similar treatment of the glabella with ONA or ABO.[17]

Following its availability in the United States, ABO was used by our clinic to treat more than 400 patients who we previously had treated with ONA in various facial sites, including the crow's-feet, glabella, neck, and chin, which provided us with an opportunity to determine if patients can differentiate between the therapeutic benefits achieved from treatment with each product. We also evaluated if these differences impacted overall patient satisfaction with BoNTA treatments.

## METHODS

Patients who previously had received ONA injections were treated in a similar manner with ABO. The dose ratio was 2.5 U of ABO to 1 U of ONA; for example, a patient who previously was treated with 20 U of ONA subsequently was treated with 50 U of ABO. All injections were administered by the same physician for both products, and every effort was made to administer all injections at the same injection sites.

An 11-question survey was designed to gather information related to patient satisfaction following aesthetic facial treatment with both BoNTA products. Questions 1 to 3 pertained to the overall effectiveness of the treatments as well as the onset and duration of results; questions 4 to 7 asked participants to describe treatment outcomes using common descriptors (eg, better overall look, softer look, smoother look, more natural look); question 8 asked participants for their preferred product; and questions 9 to 11 inquired if participants observed any additional benefits such as smoother skin texture, smaller pores, or improved skin quality in the treated area. Each participant also was asked to identify the principle facial area treated with BoNTA.

The patient satisfaction survey was sent to patients known to have undergone treatment with both ABO and ONA. A self-addressed stamped envelope was provided to encourage survey participation. All surveys were returned anonymously. The survey results were tabulated for descriptive comparisons only. Because the surveys were sent anonymously, the time that had elapsed between treatments was not known with certainty but was likely 3 to 4 months. There were no planned statistical analyses.

## RESULTS

The survey was mailed to 380 patients and 194 completed surveys were returned over approximately 2 months, rendering an overall response rate of 51%. The returned surveys referenced the use of BoNTA for the treatment of crow's-feet (n=63), glabella (n=36), neck (n=9), forehead (n=8), and chin (n=7). Despite specific instructions, a large number of participants (n=71) failed to note the anatomic site of their treatment. The tabulated responses are graphically presented in Figures 1 to 11. Because a relatively small number of surveys referencing treatment of the neck, forehead, and chin were received, meaningful results could not be obtained regarding the use of BoNTA products in these facial areas. The survey results that referenced treatment of crow's-feet and the glabella are described here in detail. For questions 1 to 8, there were a few instances in which there was a yes response but no product was selected; these responses are labeled in the figures as undecided. Several participants did not respond to questions 9 to 11; they are labeled in the figures as unknown.

### Questions 1, 2, and 3

Among the 63 participants who received treatment of crow's-feet, 27 (43%) reported that one product was more effective, 26 (41%) reported that one product worked faster, and 30 (48%) believed one product lasted longer than the other product (Figures 1–3), which was reported to be ABO by 17 (63%), 15 (58%), and 18 (60%) of these participants, respectively. Among the 36 participants who received treatment of the glabella, 17 (47%) perceived one product to be more effective, 12 (33%) believed one product worked faster, and 20 (56%) believed one product lasted longer than the other product (Figures 1–3), which was reported to be ABO by 9 (53%), 5 (42%), and 11 (55%) of these participants, respectively.

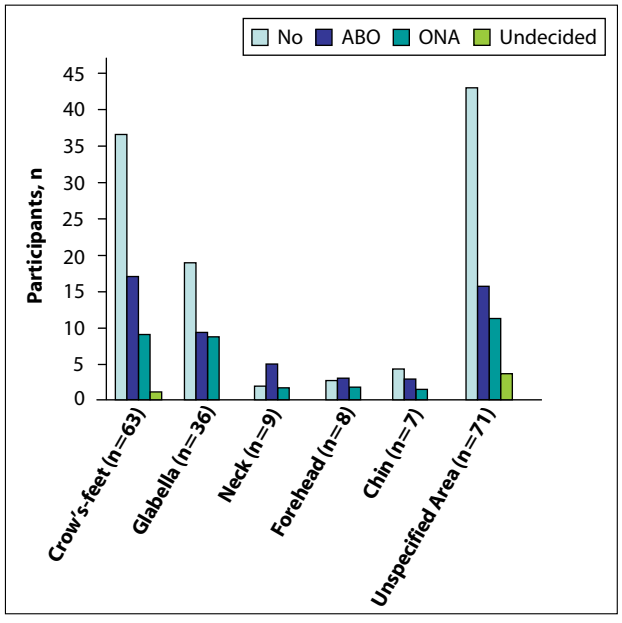


**Figure 1.** Survey question 1 completed by 194 participants treated with abobotulinumtoxinA (ABO) and onabotulinumtoxinA (ONA): Once the products reached their peak effects, do you think one was more effective than the other?

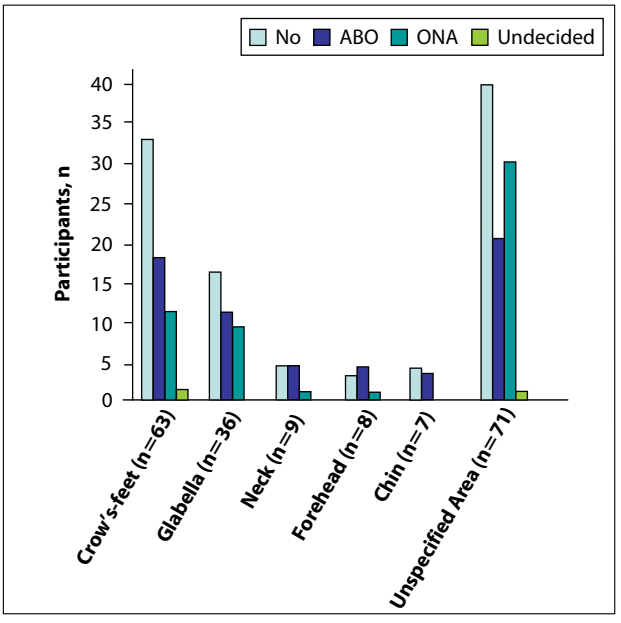


**Figure 3.** Survey question 3 completed by 194 participants treated with abobotulinumtoxinA (ABO) and onabotulinumtoxinA (ONA): Do you think one product lasted longer than the other?

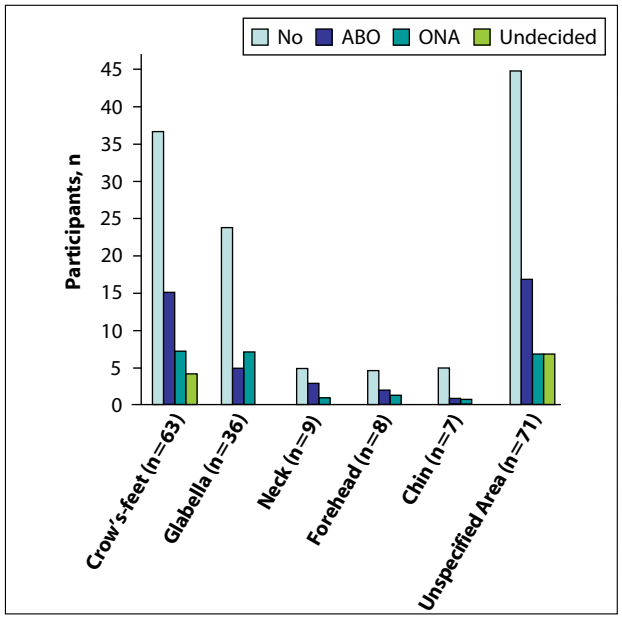


**Figure 2.** Survey question 2 completed by 194 participants treated with abobotulinumtoxinA (ABO) and onabotulinumtoxinA (ONA): Do you think one product started working faster than the other?

## Questions 4, 5, 6, and 7

Among the 63 participants who received treatment of crow's-feet, 31 (49%) believed one product provided a better look overall, 31 (49%) believed one product provided a softer look, 26 (41%) believed one product provided a smoother look, and 24 (38%) believed one product provided a more natural look (Figures 4–7), which was reported to be ABO by 16 (52%), 19 (61%), 16 (62%), and 16 (67%) of these participants, respectively. Among the 36 participants who received treatment of the glabella, 16 (44%) believed one product provided a better look overall, 14 (39%) believed one product provided a softer look, 16 (44%) believed one product provided a smoother look, and 14 (39%) believed one product provided a more natural look (Figures 4–7), which was reported to be ABO by 11 (69%), 11 (79%), 12 (75%), and 10 (71%) of these participants, respectively.

## Question 8

Among the 63 participants who received treatment of crow's-feet, 33 (52%) preferred one product (Figure 8), which was reported to be ABO by 15 (45%) of these participants. Among the 36 participants who received treatment of the glabella, 29 (81%) preferred one product (Figure 8), which was reported to be ABO by 11 (38%) of these participants.

## Questions 9, 10, and 11

Among the 63 participants who received treatment of crow's-feet, 42 (67%) reported smoother skin texture,

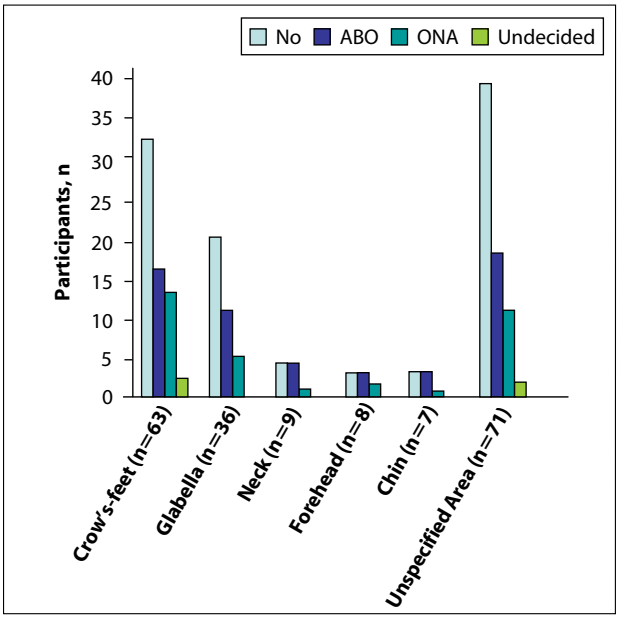


**Figure 4.** Survey question 4 completed by 194 participants treated with abobotulinumtoxinA (ABO) and onabotulinumtoxinA (ONA): If you were to rate the overall appearance of the treated area, do you feel that one product gave you a better look overall?

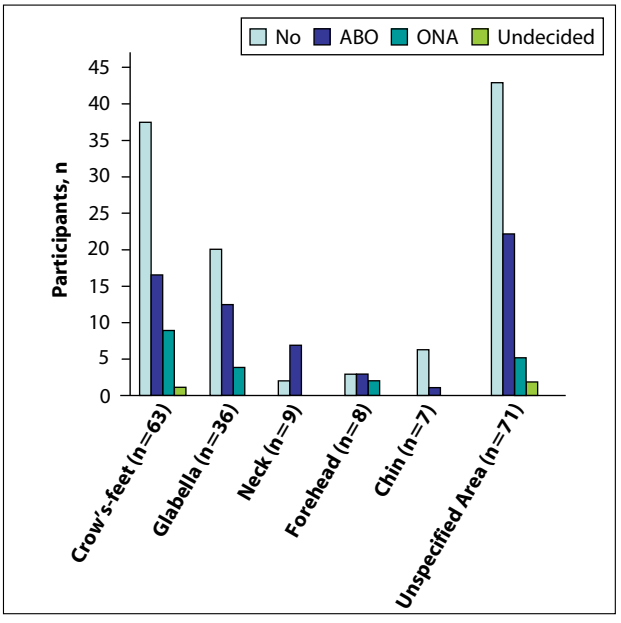


**Figure 6.** Survey question 6 completed by 194 participants treated with abobotulinumtoxinA (ABO) and onabotulinumtoxinA (ONA): Do you feel that one product gave you a smoother look?

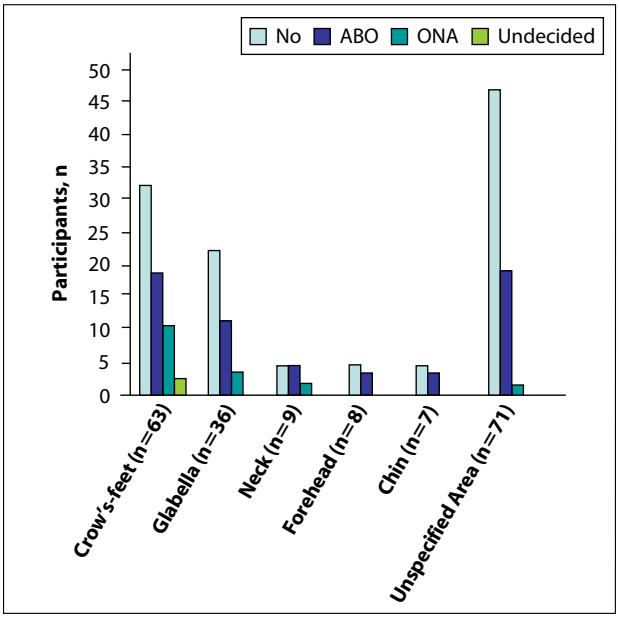


**Figure 5.** Survey question 5 completed by 194 participants treated with abobotulinumtoxinA (ABO) and onabotulinumtoxinA (ONA): Do you feel that one product gave you a softer look?

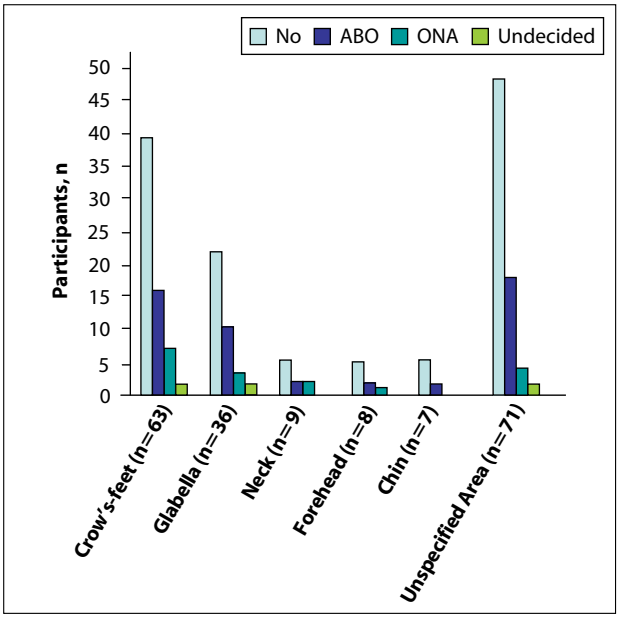


**Figure 7.** Survey question 7 completed by 194 participants treated with abobotulinumtoxinA (ABO) and onabotulinumtoxinA (ONA): Do you feel that one product gave you a more natural look?

54 (86%) reported smaller pores in the treated area, and 49 (78%) reported improved skin quality following treatment with ABO (Figures 9–11). Among the 36 participants who received treatment of the glabella, 25 (69%) reported smoother skin texture, 29 (81%) reported smaller pores in the treated area, and 26 (72%) reported improved skin quality following treatment with ABO.

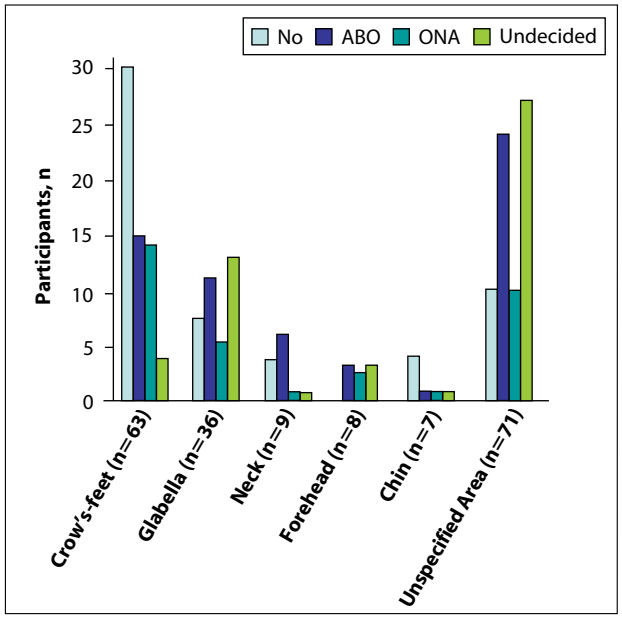


**Figure 8.** Survey question 8 completed by 194 participants treated with abobotulinumtoxinA (ABO) and onabotulinumtoxinA (ONA): Overall, which product do you prefer to use?

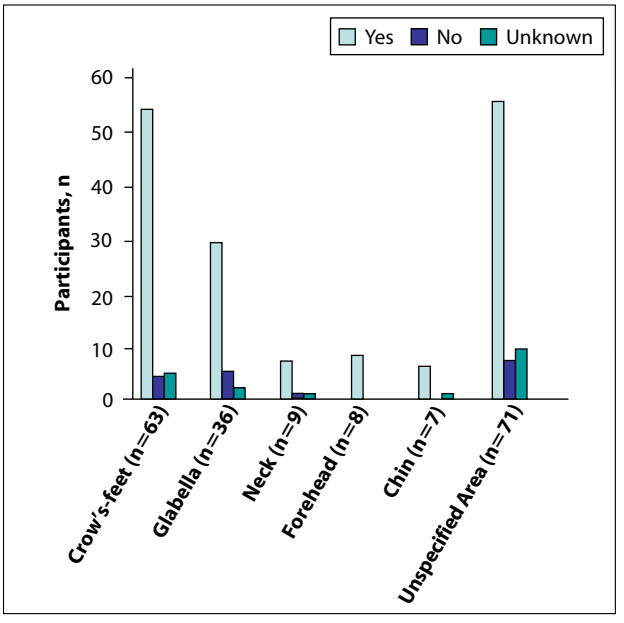


**Figure 10.** Survey question 10 completed by 194 participants treated with abobotulinumtoxinA (ABO) and onabotulinumtoxinA: After your ABO treatment, did you notice smaller pores in the area that was injected?

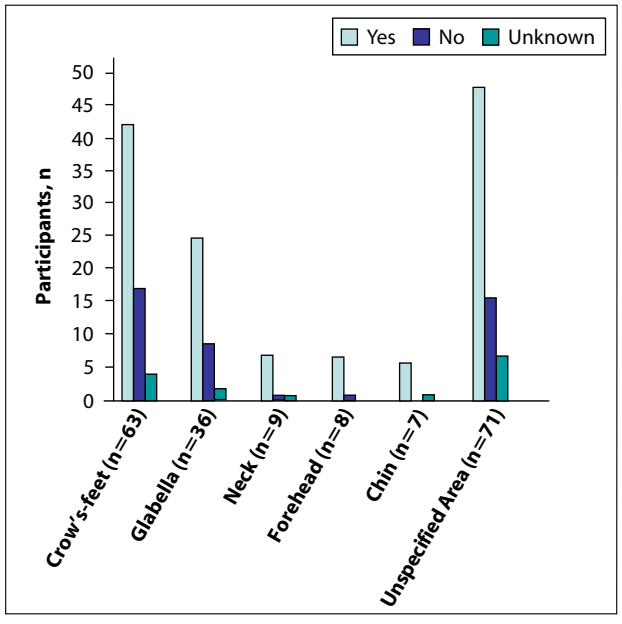


**Figure 9.** Survey question 9 completed by 194 participants treated with abobotulinumtoxinA (ABO) and onabotulinumtoxinA: After your ABO treatment, did you notice a smoother texture in the area that was injected?

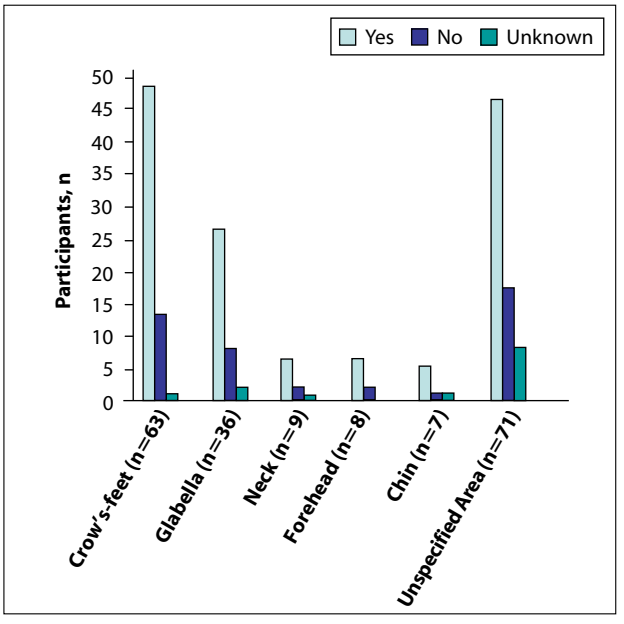


**Figure 11.** Survey question 11 completed by 194 participants treated with abobotulinumtoxinA (ABO) and onabotulinumtoxinA: After your ABO treatment, did you notice improved skin quality in the area that was injected?

## COMMENT

Because a small number of participants who returned surveys received treatment in the neck, forehead, and chin areas, meaningful comparisons could not be made with results that were reported for these sites; however, a relatively large number of survey responses were obtained from participants who received treatment of crow's-feet (n=63) and the glabella (n=36). Surveys

collected from participants in these treatment groups revealed 2 important findings.

First, the majority of participants did not perceive any differences in the aesthetic effects achieved following treatment with ABO versus ONA injections. This finding is in agreement with the results reported by Lowe et al.[17] In their study, participants underwent treatment of the glabella in 2 randomized groups, receiving either 30 U of ONA (n=30) or 75 U of ABO (n=30). After 20 weeks, there was no difference in self-reported patient satisfaction rates.[17] In a prior study reported by Lowe et al,[16] patient satisfaction was greater after 12 weeks in participants who were treated with ONA, though the mean age of the participants in the ONA treatment group was significantly older than those in the ABO treatment group (46 years vs 39 years; $P=.02$).[16] In both studies, the dose ratio was the same as ours.

Second, among participants who expressed a preference for one BoNTA product over the other, most indicated greater satisfaction with the ABO results, which was especially true for the onset of visible effects; overall improvement of skin quality in the treatment areas; and assessment of a softer, smoother, more natural look and smoother texture. These results are in contrast with a satisfaction survey performed by de Boulle[18] that enrolled participants who initially were treated with ONA and reported that they were satisfied or extremely satisfied with the clinical effects of their treatment (N=40). Participants received a similar treatment with ABO using a dose ratio of 2.5 to 1 for ABO to ONA. A questionnaire was administered to all participants at baseline, as well as 2, 8, 12, and 16 weeks posttreatment, to evaluate participants' satisfaction with treatment, perceived effectiveness of each product in restoring a youthful and rejuvenated appearance, and ultimate product preference. Although patients reported more favorable satisfaction with ONA, this result may have been due to other variables besides the reduction of wrinkle severity, such as the effect on brow position, the smoothness and shininess of the skin, and the relatively small number of patients. In addition, there was a large patient selection bias due to the study requirement of being satisfied or extremely satisfied with the clinical effects of their prior ONA treatments.[18] The only positive response to ONA over ABO in our survey was with respect to the glabella (question 2; 7 vs 5 responses).

Our choice to use a dose ratio of 2.5 to 1 for ABO to ONA was based on the most current literature. Recent reports do not support a dose ratio that is greater than 4 to 1,[19] and the results of one review suggest a dose ratio between 2.5 to 1 and 2 to 1.[20] Although we believe the relative potency of the BoNTA products that were administered was similar, we were unable to control for other possible differences in product characteristics, such as diffusion following administration. Other limitations included the retrospective study design and the lack of control for the number and timing of prior BoNTA treatments. Also, there may have been a treatment bias because the population of surveyed patients in our study had most recently undergone treatment with ABO. In future surveys, the possibility for bias in positive, leading questions should be balanced by asking an equal number of negative questions.

## CONCLUSION

A comparison of patient satisfaction rates following treatment with ABO in participants who previously were treated with ONA revealed that most patients could not distinguish between the effects of different BoNTA products; however, there was a modest preference for ABO in patients who did notice a difference.

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