

## LETTERS TO THE EDITOR

# Onabotulinumtoxin A for correcting trapezius muscle hypertrophy in Asian women

To the Editor

Hypertrophied trapezius muscle may result in an aesthetic problem that impacts on patient's attractiveness and beauty perception.<sup>1</sup> Botulinum toxin A (BoNTA) can create smooth and neat contours by volume reduction of trapezius muscle.<sup>1</sup>

We retrospectively assessed the effectiveness of onabotulinumtoxin A (onabotA) in women aged  $\geq 18$  and  $\leq 50$  years with bilateral trapezius hypertrophy, who underwent treatment with BoNTA for aesthetic purposes.

## 1.1 | Injection technique

Fifty units of onabotA were injected into the most prominent strip of the upper portion of the trapezius muscle following the model (Figure 1).

## 1.2 | Measurements

With the patient looking straight ahead, we measured the distance between the inferior tip of the mastoid process to the base of the neck (MPNB) and between the shoulder and the base of the neck (SNB) (Figure S1).

## 1.3 | Patient satisfaction

We used a 5-point Likert scale (Strongly disagree; Disagree; Neither agree nor disagree; Agree; and Strongly agree) to evaluate the satisfaction of the patient. The scale consisted of two questions: Are you satisfied with the treatment results? Would you repeat the treatment?

## 2 | RESULTS

Eleven patients were included in the analysis. The median (range) age was 34.0 (23.0 to 46.0) years, and all the patients were women.

Median (range) administered dose of onabotA was 50.0 (35.0–60.0) U in the right side and 50.0 (15.0–60) in the left one.

There were no significant differences at baseline between the right and the left sides in either MPNB ( $p = 0.0859$ ) or SNB (0.1929).

Median (95%CI) reductions in MPNB were 1.5 (1.0–1.9) cm,  $p = 0.0033$  (Figure 2A), 1.5 (1.2–2.0) cm,  $p = 0.0033$  (Figure 2B), in the right and left sides, respectively. Median increases in SNB were 0.8 (0.5–1.1) cm,  $p = 0.0051$  (Figure 2C), and 1.0 (0.6–1.2) cm,  $p = 0.0051$  (Figure 2D), in the right and left sides, respectively.

Clinical results, assessed by means of photographs, have shown a significant aesthetic improvement (Figures S2 and S3).

Patients showed high satisfaction levels, with 9 (81.8%) patients reporting to be "Strongly agree" and 2 (18.2%) ones "agree," with the treatment results. Regarding the question: Would you repeat the treatment? 72.7% (8/11) patients report to be "Strongly agree" and 3 (27.3%) ones "agree," with the question.

Five (45.5%) patients reported pain at the time of injection, which was resolved spontaneously without treatment. Two patients experienced pectoral muscles soreness, due mainly to a mild weakness of the trapezius muscles, which was resolved spontaneously within 15 days.

## 3 | COMMENT

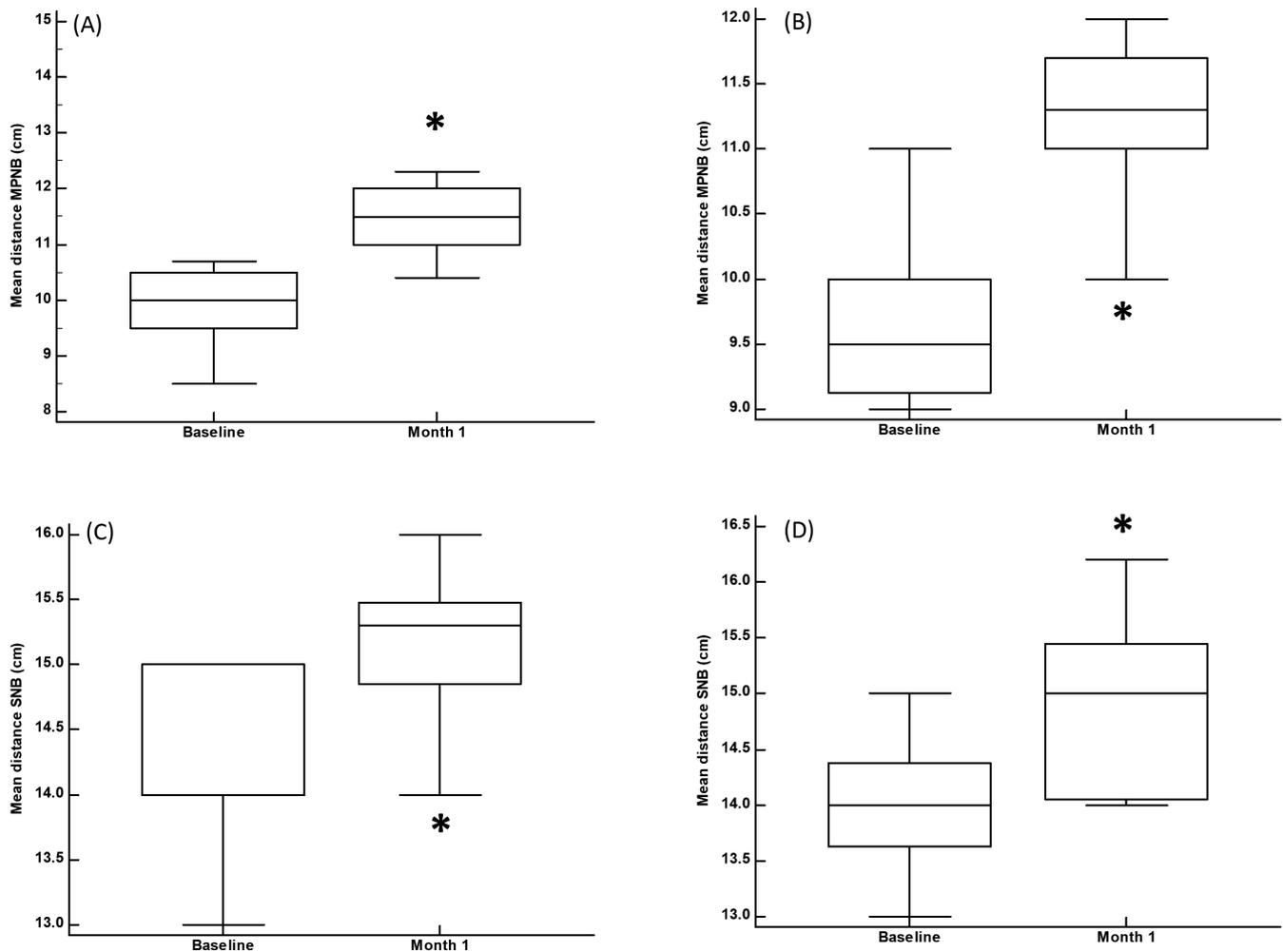
The current study observed that onabotA was able to relax significantly the hypertrophied trapezius muscles creating smooth contours, which, in turn, helped to improve the neck length. Additionally, due to these optimal aesthetic results, patients showed a high satisfaction rating.

The aim of injecting BoNTA into the muscles is to produce a neurogenic atrophy, with muscle mass loss.<sup>2,3</sup>

Minimally invasive aesthetic procedures, particularly BoNTA injections, have become increasingly popular over the last decade, with more than 6.2 million aesthetic treatments were performed in 2019 worldwide.<sup>4</sup> However, information about the effect of BoNTA in patients with bilateral trapezius hypertrophy for aesthetic purposes is very limited.<sup>1</sup>



**FIGURE 1** Technique for the delimitation of the trapezius muscle and treatment point strategy. Injection points were separated by a distance of 1.5–2.5 cm each. A 27-gauge injection needle was used. For the treatment of the trapezius muscles, 10 U per selected point was administered



**FIGURE 2** Overview of the different study measurements. The vertical bars represent the 95% confidence interval. A, MPNB in the right trapezius muscle. B, MPNB in the left trapezius muscle. C, SNB in the right trapezius muscle. D, SNB in the left trapezius muscle. MPNB: Mean distance from mastoid process to the base of the neck; SNB: mean distance from shoulder to the base of the neck. Statistical significance, as compared to baseline, was determined using the Wilcoxon test with the Hodges-Lehmann estimate of location shift. \* $p < 0.01$

As compared to Zhou et al,<sup>1</sup> our injection technique was more precise and designed for minimizing potential adverse events derived from a possible diffusion of BoNTA. Moreover, the fact that Zhou et al did not mention the BoNTA they used makes it impossible to compare our results with theirs, since dosing and product performance of the different BoNTAs are not interchangeable, which may have relevant clinical implications in efficacy, safety, and duration of action.<sup>5,6</sup>

Although this was a short-term study with a limited number of patients, its results suggested that injecting 50 U of onabotA was an effective and safe aesthetic procedure in patients with bilateral trapezius hypertrophy.

#### INFORMED CONSENT

All patients were fully informed about the details of the study protocol. The need of informed consent was waived for this study.

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#### AUTHOR CONTRIBUTIONS

All authors met the ICMJE authorship criteria. All authors contributed to the drafting and critical revision of the manuscript, commented on previous versions of the manuscript, and read and approved the final manuscript prior to submission.

#### ETHICAL STATEMENT

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964

Helsinki declaration and its later amendments or comparable ethical standards.

#### DATA AVAILABILITY

Data available on request from the authors.

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#### SUPPORTING INFORMATION

Additional supporting information may be found in the online version of the article at the publisher's website.

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