

Correspondence

Can botulinum toxin cause anaphylaxis after an aesthetic treatment?

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Over the past decade, botulinum toxin (BoNT) has become the mainstay of the aesthetics industry for the treatment of a range of both on-label and off-label indications, notably for facial improvement and quality of life benefit. Exact details on the quantities of each product used are not available, but the range of products is increasing rapidly.¹ New products, particularly from the Republic of Korea, are adding to those from the three well-established market leaders, Allergan, Ipsen and Merz. New products are also emerging in new formats, typically presented as liquids, intended to improve clinical use through a ready-to-use approach. Coupled with increasing product use, there have also been increases in the reporting of rare adverse events (AEs). Many of these are single case reports, often with the patient experiencing disturbing and significant symptoms, but these generally resolve quite quickly.

The report by Moon and colleagues, of a case of anaphylaxis after aesthetic BoNT treatment of a patient,² is not, in fact, the first case of anaphylaxis reported for a patient after a BoNT treatment, as an earlier case was reported by Li and colleagues in 2005.³ However, the earlier case was complicated by the use of lidocaine mixed with the BoNT product, the list of additional medications that the patient was taking concomitantly, and the very rapid onset of seizure that occurred. The dose used corresponded to only 5 ng (100 U) of Botox® (Allergan, Dublin, Ireland), a dose that has been commonly used for a great number of patients over many decades, without any such AEs. This concentration of toxin would not be expected to enter systemic circulation; one of the major benefits of BoNT as a pharmacologically active substance has always been its highly localized clinical effect. Cases of sudden, sometimes fatal, anaphylactic shock to lidocaine have been previously reported. Adverse reactions to human serum albumin, an excipient included in the majority of commercial toxin products, are rare but potentially fatal. Again, the quantity of albumin included within these products is small.

There is, however, one possible explanation for the AE reported by Moon and colleagues that the authors may

not have considered. They report using the Allergan product Vistabel®, but this product is not sold legally outside of the European Union; it is an aesthetic BoNT product variant specifically for use only in those countries. This might indicate that the product Moon and colleagues used was, unknown to them, a counterfeit. Counterfeit and fake BoNT products are well known, and have been reported many times in the literature.⁴ Severe AEs to these products are also known.⁵ Such products are highly dangerous and of completely unknown quality. They may not even be sterile, and are likely to cause severe injury if used for patient treatments. As they can often be indistinguishable to the injector from the branded, genuine product, they can enter the supply chain easily at different points. Clinicians must be vigilant in ensuring that such products are never purchased and certainly never used.

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Conflict of interest: AMP is Director and Founder of Toxin Science Limited, Wrexham, UK; Adjunct Professor at the Botulinum Research Center, Institute for Advanced Sciences, North Dartmouth, USA; and Senior Program Leader and Scientific Expert, Neurotoxins, Galderma Uppsala, Sweden. The opinions and statements expressed are those of the author and Toxin Science Limited only, and are not intended to promote the use of any botulinum toxin product.

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