

## LETTERS ▼

### Use of botulinum toxin type A in Frey's syndrome\*

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Dear Editor,

Frey's syndrome (FS) is characterized by sweating and erythema in the parotid gland region, related to salivary stimulus, and emerges after parotid gland traumas, such as parotidectomy, the drainage of abscesses, gunshot wounds, and shingles.<sup>1</sup>

We present a case of a 60-year-old, white, female patient, who underwent a partial left parotidectomy 10 years ago due to a benign tumor, and who, some months after the procedure, began to suffer from sweating and erythema in the mandibular angle, pre-auricular and retro-auricular ipsilateral regions. In spite of the discomfort during meals, she never sought out treatment. As the hypothesis of FS was put forth, the Minor test was performed by applying a 2% iodine tincture in the region indicated by the patient, followed by the placing of corn starch on the location (Figure 1). The patient ate a lime popsicle, provoking the immediate appearance of brownish spots and adjacent erythema, confirming the clinical picture of gustatory sweating (Figure 2).

The affected region was marked by a white pencil to map the treatment with a botulinum toxin type A. Antisepsis with 2% chlorhexidine and a unit of toxin (Onabotulinum toxin type A with a dilution of 100U/ml) applied per injection point along the demarcated region, with a distance of approximately 1cm between the points, totaling 35 applied units. No anesthesia or ice was used before the application, and the patient considered the procedure to be quite tolerable.

After two weeks, the patient returned with an excellent clinical response. When compared to the Minor test, there was still a positive reaction in the region near the left earlobe, where five units of botulinum toxin type A were applied, totaling 40 units used in the treatment (Figure 3).

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FIGURE 1: Application of 2% iodine tincture and powder over the affected area



FIGURE 2: Positive reaction of the Minor test: erythema and sweating in the affected area



FIGURE 3: Positive reaction in a small area near the earlobe two weeks after botulinum toxin application

During follow-up, the patient presented no clinical complaints up to one year after the treatment, at which time she was submitted to the reapplication of botulinum toxin type A, but in a smaller quantity (34 U) in order to attain a more satisfactory response.

The FS or auriculotemporal syndrome or gustatory sweating results from the salivary stimulus during and immediately after eating, seeing, thinking about, or talking about certain foods.<sup>2,3</sup>

The hypothesis is that, after a parotid gland trauma, a lesion would occur to the auriculotemporal branch of the trigeminal nerve, followed by an anomalous and aberrant regeneration of nerve fibers, with the anastomosis of the parasympathetic fibers with sympathetic fibers of the subcutaneous sweat glands and surface blood vessels.<sup>4</sup> Consequently, not only is the salivary reflex stimulated during chewing, but also the production of sweat and the cutaneous vasodilation of the affected region.<sup>5</sup>

The symptoms generally arise about six months after the parotid gland trauma, the time necessary for the regeneration of the damaged nerve, but there are reports of medical conditions that began up to 14 years after the traumatic event.<sup>4</sup>

The incidence described for FS after parotidectomy is quite variable and depends on the criteria used to reach this diagnosis. One subjective incidence (based on the perception of the patient's symptoms) was identified between 12.5% and 62%, while an objective incidence (verified by the Minor test) was found between 22% and 98%.<sup>3</sup>

FS treatment can be challenging and involves clinical and surgical options. Some patients who complain of discomfort due to sweating can be benefitted by the use of topical antiperspirants applied to the affected area, such as aluminum chloride.<sup>2</sup>

Autologous fat grafts, temporoparietal fascia grafts, muscle flaps, and the use of artificial tissues are example of surgical techniques used in both the prevention and treatment of FS, whose objective is to construct a barrier between the skin and the auriculotemporal nerve in order to avoid anomalous regeneration.<sup>3</sup>

Botulinum toxin type A was proposed as a treatment of FS in 1995, and seeks to block the pre-synaptic release of acetylcholine in the neuromuscular and neuroglandular joint,<sup>2</sup> in turn provoking a chemical denervation. As an advantage, this is characterized as being a relatively non-invasive therapeutic measure that is safe, effective, and long-lasting.<sup>1,3</sup>

In general, the results of botulinum toxin type A for sweating are more prolonged than those obtained in treatments that focus on the reduction of muscular actions. In practice, the successive treatment with the toxin seems to promote a reduction in the severity of the symptoms and the extension of the treated area, as well as space out the period between recurrences. One possible explanation would be the atrophy of the eccrine glands, inhibited for long periods of time.<sup>2,5</sup>

Disadvantages that may occur include: dry mouth, weakening of the facial muscles, eyelid ptosis, facial paralysis, as well as short-term local reactions of pain, edema, erythema, and ecchymoses. Allergic reactions and the development of resistance to botulinum toxin type A can occur, and in these cases, the use of botulinum toxin type B would be a plausible alternative.<sup>1,2</sup> □

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## Pseudo "fringe sign" in frontal fibrosing alopecia\*

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Dear Editor,

Since its description in 1994 by Kossard, frontal fibrosing alopecia (FFA) has been intensively studied, with new features described at every moment.<sup>1-4</sup>

Recently, Pirmez *et al.* described the pseudo "fringe sign", an atypical presentation of the disease, which resembled traction alopecia (TA).<sup>5</sup> However, the patients presented with features of FFA, scarring alopecia and facial papules or lichen planus pigmentosum, as well as loss of eyebrows and body hairs. The true "fringe sign" is described in TA, in which the hairs of the implantation region are spared after traction. In principle, this difference would help in the differential diagnosis between TA and FFA.

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