This is a simple but effective modification of a disposable item in the hand set. It avoids the need for expensive protective goggles and face masks, and allows for safe pressure irrigation of small contaminated wounds on the hand.
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BOTULINUM TOXIN: 28 PATIENTS AFFECTED BY FREY'S SYNDROME TREATED WITH INTRADERMAL INJECTIONS

Sir:

Frey's syndrome, or gustatory sweating, is a phenomenon frequently seen after total parotidectomy and surgery on the temporal-mandible articulation. It is characterized by hyperhidrosis and facial flushing, especially in the parotid regions, during eating.[1] Although this syndrome takes its name from Lucie Frey,[2] it was first reported by Baillarger in 1853[3] and not by Duphenix, as is commonly cited.[4]

The mechanism by which this disorder manifests itself arises from damage to postganglionic parasympathetic fibers of the auriculotemporal nerve that terminate in the parotid. After removal of the parotid, these regenerated fibers go on to innervate the vessels and sweat glands of the face. This alteration of anatomy produces the local flushing and hyperhidrosis.[5–8]

Although Frey's syndrome is almost inevitable after parotidectomy, only about 50 percent of patients are symptomatic, and of these, only half judge their symptoms to be "important or embarrassing."[9] For this latter group, numerous medical and surgical treatments have been proposed to prevent or treat this condition, with limited success in some cases.[10–13]

The aim of our study was to verify the effectiveness of a new method, the intradermal injection of botulinum toxin. Botulinum toxin inhibits the presynaptic release of acetylcholine. It blocks the interference between the auriculotemporal nerve fibers of the parotid and the sweat glands of the skin.

Twenty-eight patients affected by Frey's syndrome were included in the study. All had complaints essentially of gustatory hyperhidrosis, with 10 reporting, in addition, a visible facial erythema in the parotid region that was particularly evident in the presence of gustatory stimulation. The gustatory stimulation was evoked in the clinic by making the patients eat sour-tasting foods (e.g., lemon juice). Four parameters were considered in each hemifacial zone: temperature and color of the skin, quantity of sweat, and surface area involved. The contralateral side of the face was used as a control. The temperature of the skin was measured using a digital contact thermometer; the local erythema was evaluated using a digital chromometer; and the quantity and surface area of sweating were measured using laboratory blotting paper and an iodine-sublimated paper histogram (a modern variant of the more traditional "test of minor"[14]). After demarcating the superficial skin and looking at clinical symptoms, using a demographic pencil, the botulinum toxin was introduced intradermally using a 30-caliber needle. Multiple doses of 0.1 ml (5 U) were injected, with a distance of 1 cm between injection sites. Patients were subdivided into two groups based on the administered dose and the size of the zone treated. Group 1 received a dose of 20 U (0.4 ml); group 2 received a dose of 75 U (1.5 ml). A lower dose was given to the group 1, whose patients had slight symptoms; the dose was limited to a 5-cm^2 area of superficial skin. Group 2 received a higher dose, as it included those patients affected by more marked symptoms.

In all the treated patients, the injection of botulinum toxin resulted in either the complete disappearance or an obvious improvement in symptoms attributable to Frey's syndrome between the fourth and sixth days of treatment. No secondary side effects were reported by the patients or noted by the examiners, apart from a slight discomfort during intradermal injection of the toxin. Follow-up examinations were performed on days 4 and 6 and at 1 month, 3 months, and every 3 months thereafter for 2 consecutive years.

The duration of symptomatic remission appeared to be more directly dependent on the administered dose rather than the intensity of the symptoms before treatment. For group 1 (low concentration, 20 U), remission lasted 9 ± 2 months, whereas for the patients who received the toxin at a higher concentration the duration of effect was 16 ± 4 months. After 9 months, about 85 percent of the group 1 patients were already positive for screening, whereas in the group 2 the positivity was less than 3 percent after the same period.

When the effect wears off, the botulinum toxin can be administered again, with a longer-lasting effect achieved with the same initial dose.

These cases appear to confirm the clear advantages that intradermal administration of botulinum toxin is able to bring to patients with gustatory sweating (Frey's syndrome). Since there is no evidence of side effects, it makes this method of treatment the first choice. This method is, however, only a temporary treatment for symptomatic relief and not a definitive resolution, although the toxin is easy to administer, economic in terms of cost, effective, and always well tolerated.

The dosages used are those in the therapeutically effective range, according to the literature examined.[15] In every case, we feel certain that symptomatic remission in terms of intensity and duration depends essentially on the dose of botulinum toxin used.
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BILATERAL STAHL'S EAR: A RARELY SEEN ANOMALY

Sir:

Stahl's ear is a rare congenital ear anomaly that is characterized by the presence of a third antihelical crus that flattens and steers the helical rim posteriorly and superiorly. Although it has been described as a rarely seen congenital ear anomaly, it is relatively more common in Asia, especially in Japan. It is seen bilaterally in 20 percent of cases.[1–3] The literature includes studies by Binder,[4] Marx,[5] Yamada and Fukuda,[6] Skoog,[7] Fischl,[8] and others[9,10] about how Stahl's ear anomaly forms, but lately it is believed that this deformity is caused by an error in the development of the helix and scapha, approximately in the third embryologic month.[1,9] In this ear deformity, the main feature is that the free margin of the helix is longer than the outer margin of the auricula, and the helix does not fold in. This situation is just the opposite of the normal ear shape. For reconstruction, a full-thickness, wedge-shaped, third crus excision is needed.[11]

A 9-year-old girl presented to our clinic because of her ear deformity. We diagnosed her as having bilateral Stahl's ear deformity with an indistinct third antihelical crus and a flattened helical rim (Fig. 1, *left*). In this case, for an adequate aesthetic result, classic wedge excision of the third crus would not be enough and total wedge excision of the third crus would make the ear smaller. We therefore modified the classic triangular wedge excision, as we did not finish the whole triangular shape. The excision became trapezoidal in shape. We added two more triangular excisions at the lateral sides and a smaller triangular excision at the top of the trapezoid to narrow the scapha, to prevent a dog-ear deformity and to get an adequate rotation of the helical rim. Another reason for such modification is to excise more abnormal third crus formation closer to the helix and scaphoid region and to prevent disturbing the regular antihelix and triangular fossa formation (Fig. 1, *left*). Full-thickness excisions were made according to the planned drawings. Auricular cartilage was sutured with 5-0 monofilament polydioxanone, and skin was closed with 6-0 monofilament polyvinyl difluoride sutures. Gentle pressure dressings were applied to the ears after the operation. There were no problems during the postoperative follow-up period. At postoperative month 3, the patient and her parents were fully satisfied with her new ears (Fig. 1, *right*).
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