A 35-year-old woman with brow spasms, treated in the past with Botox, was referred for increasing tightness in the brow. She reported having experienced an episode of difficulty focusing after a previous injection of Botox by another physician. The patient had no response to a subcutaneous injection consisting of 10 units of Botox above the eyebrows, nor to a subsequent injection of 20 units in the same location 2 months later. A third injection of 35 units of Botox resulted in improvement of her brow spasms, but only for 48 h. Accordingly, 2 months after the third injection, she was injected with 75 units of Botox, with 30 units injected in three separate locations above each eyebrow and 7.5 units injected just lateral to each lateral canthus. At 1 week after this injection, the patient had difficulty focusing, and shortly thereafter noted horizontal binocular double vision, worse on left gaze.

On examination 48 h after the onset of her symptoms, the patient had normal visual acuity of 20/20 OU, with normal colour vision and full visual fields. She had anisocoria, with the right pupil being 0.5 mm larger than the left, but both pupils reacted briskly to light stimulation and both dilated equally well after topical administration of a 10% cocaine solution. The right eye moved fully in all directions. The left eye had mild limitation of abduction, but otherwise moved fully. Duction measurements revealed 60° of abduction of the right eye versus 50° of the left eye. In primary position, the patient had an esotropia of 9 prism diopters (PD) at distance and 2 PD at near. The esotropia was incomitant, and increased on left gaze to 15 PD. Corneal and facial sensation were equal and normal bilaterally. Slit-lamp examination and fundoscopy were normal. MRI of the brain and orbit were normal.

The patient was treated with a 6–PD Fresnel prism placed base out on her left spectacle lens for temporary symptom relief. One month later, her diplopia had resolved and she was able to remove the prism.

Comment

This is the first reported case of lateral rectus paresis after an injection of Botox into the lateral canthal region. Inferior oblique paresis is an uncommon adverse effect of Botox injection into the lower lid, with a reported incidence of 1.7%. The mechanism is postulated to be diffusion of the medication to the underlying inferior oblique muscle. Diffusion of botulinum toxin to surrounding muscles has also been reported after treatment of dystonia with large doses of the drug. We believe that, in our case, Botox spread from the lateral canthus to the left lateral rectus muscle, producing a transient paresis of the muscle characterised by an incomitant esotropia and a mild left abduction deficit. It is interesting that patients who experience diplopia after a periorbital injection of Botox tend to have recurrence of diplopia when they are reinjected, suggesting that they have some predisposition to this complication. Our patient had an episode of difficulty focusing after a previous periorbital injection of Botox by another physician, which was similar to the prodrome that she experienced just before she developed diplopia after the injection we gave her. Fortunately, the diplopia was transient, resolving as the effects of the botulinum toxin dissipated. We believe that patients who experience diplopia or have difficulty focusing after an injection of botulinum toxin should be counselled as to the potential recurrence of such an effect with subsequent injections of the drug, regardless of the care taken to avoid these sequelae.
Footnotes

Competing interests: None.

Informed patient consent was obtained for the publication of the person’s details in this report.

References

