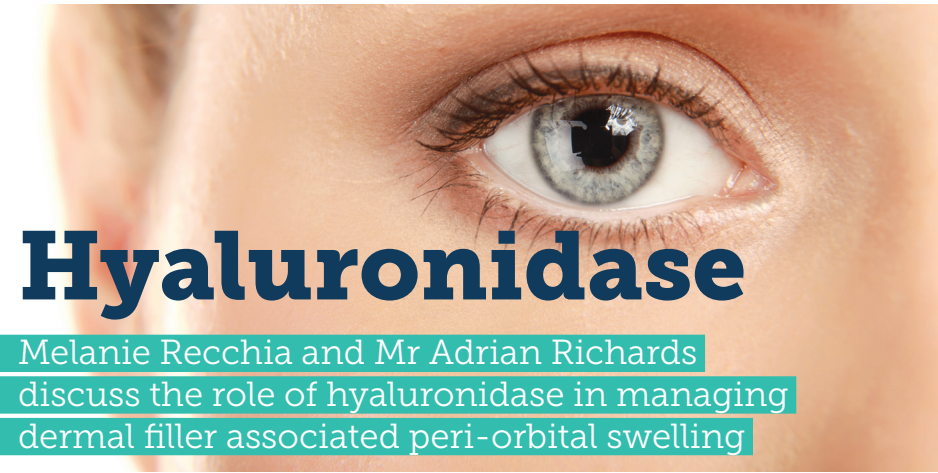




Hyaluronidase

Melanie Recchia and Mr Adrian Richards
discuss the role of hyaluronidase in managing
dermal filler associated peri-orbital swelling

We report on two cases that have recently presented to our clinic. Both had upper face hyaluronic acid (HA) dermal filler treatments and developed significant peri-orbital swelling some time after the initial treatment. The long-standing swelling was treated successfully with hyaluronidase. This article discusses the causes of HA dermal filler associated peri-orbital swelling and its management.

Case Report 1

In September 2011, a 46-year-old patient underwent HA dermal filler treatment to her tear trough area. She had previously been treated in other areas including cheeks, naso-labial folds and lips without incident. Each tear trough area was treated with 0.4mls of HA dermal filler placed in a sub-cutaneous position. Her immediate recovery was uncomplicated. She contacted the clinic two months later saying that she had developed a persistent swelling to her left lower eyelid. Conservative treatment, which included massage, did not help to resolve the swelling. The area was therefore treated with 25 units of hyaluronidase, reconstituted as

per protocol (**Figure 1**). The patient reported a slight improvement in the area two weeks following treatment. The patient presented again four months later reporting worsening swelling of her left lower eyelid. No palpable filler was noted at that time. She was treated with a further 25 units of hyaluronidase and a short course of oral prednisolone. Again, the patient reported slight improvement in the area one week following treatment. The patient presented 18 months later with recurrent swelling and skin excess in the lower section of her left eyelid. She was referred to an oculoplastic surgeon who recommended further hyaluronidase treatment. He noted possible residual dermal filler and felt that the use of hyaluronidase may still have some benefit, even though it was three years following her initial tear trough treatment. The isolated swollen area was treated by our lead practitioner with 25 units of hyaluronidase. The patient reported a significant improvement in the area within 24 hours of treatment. Within a week the swelling and skin excess had completely resolved and she remains happy with the result.

Case Report 2

A 64-year-old female had been having HA dermal filler to her cheeks on an annual basis for approximately three years. The areas were usually filled with 0.8mls in the left cheek and 2 x 0.8mls to the right, due to asymmetry. Eight months after her last treatment, the patient presented with a very obvious soft swelling under the right eye, as seen in **Figures 2 and 3**. She reported that the swelling had started approximately five months previously. At this time the patient declined treatment and opted to continue to see if it would resolve naturally.

Four months later, the patient returned for review. The area under the right eye had not changed so the use of hyaluronidase was discussed and treatment went ahead using 30 units. At her next appointment – 24 hours later – the swelling in the area showed considerable improvement. The patient was reviewed again two weeks later, and a complete resolution was seen (**Figures 4 and 5**).

Discussion

Peri-orbital swelling has been reported to be associated with a variety of fillers.^{1,3} In this report, lower eyelid swelling occurred in patients following migration of the filler from the malar area. Peri-ocular swelling and diplopia have also been reported following hyaluronic acid-based dermal fillers.² In the article a 38-year-old female presented with diplopia and bilateral lower eyelid swelling one and a half months after hyaluronic acid filler injection of tear trough deformity. An eye examination demonstrated an inferior oblique muscle restriction on the right eye. Diplopia and bilateral lower eyelid puffiness were treated by injection of hyaluronidase, which resulted in the disappearance of both diplopia and bilateral lower eyelid puffiness.

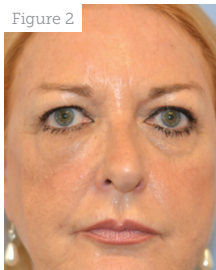
Hyaluronidase is a hyaluronic acid-metabolizing enzyme. Cross-linked hyaluronic acids have been shown to be susceptible to hydrolysis by hyaluronidase when contained within the intact facial artery in a cadaver model, indicating that direct intra-arterial injection of HYAL is not necessary to help restore the circulation of ischemic tissues.⁴ Most hyaluronidase is ovine or bovine in nature and some brands are derived from cobra venom. It is preferable to do a skin test before use to check for potential allergic reactions. Hyalase (Wockhardt UK Ltd) is the brand

Figure 1: Hyaluronidase Reconstitution Guidelines

1. 1ml bacteriostatic saline 0.9% drawn up from a 30ml vial.
2. Inject that 1ml into the ampoule of Hyalase.
3. Draw up the contents of the ampoule and re-introduce into the 30ml vial of bacteriostatic saline 0.9%.
4. You now have 1500 units of Hyalase in 30mls bacteriostatic saline 0.9%.
5. This is equivalent to 1ml = 50 units: 0.1ml = 5 units: 0.05mls = 2.5 units.
6. Study results suggest for a 0.8ml syringe of HA you may need up to 80 units of hyalase or 1ml HA may need up to 100 units.
7. Inject slowly into the centre of the product you are trying to remove.
8. Review in 24 hours.



Figure 2

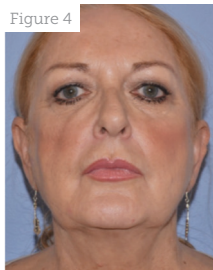


Patient 2 before hyaluronidase treatment showing soft swelling under the right eye

Figure 3



Figure 4



Patient 2 after hyaluronidase treatment showing a significant reduction in swelling

Figure 5



used in the UK, and is supplied in a 1500 unit ampoule. It is a prescription only medication. A study of 14 patients with peri-orbital oedema associated with hyaluronic acid filler treatment demonstrated that it rapidly resolved eyelid swelling after one treatment.³ No adverse effects were noted and the resolution of the swelling was permanent in the patients with hyaluronic filler associated swelling. The study concluded that, "The infiltration of hyaluronidase is rapid, safe and currently the only effective option for the management of eyelid oedema." Our findings support previous reports on eyelid swelling following regional dermal

filler treatments. The swellings in our patients were long standing and remained even though we would have expected the dermal filler to be absorbed. We were pleased that the hyaluronidase worked so effectively and quickly on these patients to resolve their issues.

Conclusion

Peri-ocular swelling following regional dermal filler treatments has been well documented. We have reported on two cases of long-standing eyelid swelling following treatment. These were successfully treated with hyaluronidase injections. Even after a prolonged

period following dermal filler treatment, hyaluronidase treatment rapidly resolved the swelling even though we would have expected the filler to have dissolved.



Adrian Richards is a consultant plastic and cosmetic surgeon who has specialised in aesthetics for more than 15 years. He is the clinical director and founder of nationwide cosmetic surgery group Aurora Clinics, as well as training provider Cosmetic Courses, which offers aesthetic training to medical professionals.



Melanie Recchia is a nurse independent prescriber specialising in muscle relaxing injections, dermal fillers and specialist skin treatments. She also manages a successful clinic in Buckinghamshire.

REFERENCES

1. AH Alsuhailani, N Alfawaz, 'Lower eyelid swelling as a late complication of Bio-Alcamid filler into the malar area'. *Saudi Journal of Ophthalmology*, 25(1) (2011), 75-9.
2. MB Kashkouli, A Heirati, F Pakdel, V Kiavash, 'Diplopia after hyaluronic acid gel injection for correction of facial tear trough deformity'. *Orbit*, 31(5) (2012), 330-1.
3. S Hilton, H Schrupf, BA Bühren, E Bölke, PA Gerber, 'Hyaluronidase injection for the treatment of eyelid edema: a retrospective analysis of 20 patients'. *European Journal of Medical Research*, (2014) 19(1):30.
4. C. DeLorenzi, 'Transarterial degradation of hyaluronic acid filler by hyaluronidase', *Dermatol Surg*, (2014) 40(8) 832-41.

de_CURE

N°OTOX - WRINKLE ERASER



TIME MACHINE?

WELCOME TO USE OURS.

LOOK UP TO 10 YEARS YOUNGER IN 5 MINUTES

Instantly and visibly minimises the appearance of fine lines, wrinkles. Rejuvenates skin texture and skin tone.

LASTS FOR HOURS

The transformative effect lasts for a day at the office or a night out on the town, on average 8-12 hours. Use Daily.

NATURAL, SAFE, PAINLESS

You do not need surgery or needles to look your best. Wash it off anytime you like.



HOW IT WORKS

The unique N°OTOX complex works on the surface of the skin. It is safe, naturally derived and painless.

Within five minutes you will experience a natural face lift. Take a before and after picture and see the result.



KEY INGREDIENTS

Contains 14 ml. Length: 162 mm. Diameter 20 mm.

Aloe Barbadesis Leaf Extract (amino acids), Hyaluronic acid (hydrating, youthful skin), Sodium Silicate (topical sealer, constant pH value), Antioxidants (youthful skin)

Tel: +44 (0) 1245 227 752
Fax: +44 (0) 1245 227 755

eden aesthetics
DISTRIBUTION LTD

E-mail: info@edenaesthetics.com
Web: www.edenaesthetics.com