Subconjunctival mobile mass after hyaluronic acid filler injection

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INTRODUCTION
Hyaluronic acid (HA) soft tissue filler injection is a well-known, cosmetic procedure commonly used around the globe.1 According to previous data, this procedure has been gaining popularity in recent years and is thought to be an acceptable nonsurgical cosmetic procedure with only a few adverse events.1 There are several ways to classify different HA fillers, for example, the duration of the effect, composition of the material, and injection-site location. One of the new HA materials based on stable hybrid cooperative complexes launched in 2015 is called Profhilo (NAHYCO Hybrid Technology, IBSA).1,2 The material has special properties that differentiate it from other HA fillers because it has a high concentration of short (80-100 kDa) and long (1100-1400 kDa) HA chains.2 These HA fillers are stabilized by temperature and not by chemical compounds.1,2 Its mechanism of action is also distinctive because it has the potential for tissue bio-remodeling even after scarring has occurred.1 Because of the low viscosity of the product and its diffusion capacity, the compound can spread to different locations from the injection site,1,5 and present as a mass or a nodule. The injection points recommended to treat periorbital fine lines and wrinkles are in the close vicinity of the eye and include the malar-zygomatic and submalar areas.

Subconjunctival masses are sometimes described as freely movable concerning the sclera; however, they are still firmly attached to the overlying conjunctiva. The appearance of a nonattached freely movable mass is considered to be a rare phenomenon, scarcely reported before.4

CASE REPORT
A 41-year-old woman presented to the ophthalmologic clinic with a symptom of a mass in her left eye. She reported no pain or mass change. Her medical and ocular history was unremarkable. Nevertheless, when asked about previous treatments, she reported having an HA injection into her left cheek 2 weeks prior. She previously had several uncomplicated treatments with other HA substances. However, this was the first time she had a Profhilo (Profhilo) injection. On biomicroscopic examination, an extremely mobile 3-mm subconjunctival mass was observed in her left eye (Fig 1, A and B). The mass caused the patient discomfort and raised some cosmetic concerns. Therefore, the patient underwent surgical mass excision and removal (Fig 2, A and B). The procedure itself was performed under local anesthesia, an incision was made and the lesion was delivered through the wound (Supplementary

Abbreviation used:
HA: hyaluronic acid

They can be highly disturbing to patients because they can cause pain, motility disturbances, visual defects, and cosmetic disfigurement, and their management often requires surgical removal.

Here, we describe a rare phenomenon of freely movable subconjunctival mass that developed as a complication of HA filler, spreading away from its original site of injection.

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Material (Video), available via Mendeley at https://doi.org/10.17632/cwmnpbdx8n.1). The lesion had a jelly consistency, unlike standard subconjunctival masses. To the best of our knowledge, this is the first reported case of HA filler migration to the subconjunctival tissue of the eye.

DISCUSSION

HA is a well-known nonsurgical, cosmetic skin rejuvenation procedure. The mechanism of action of high and low-molecular weight hyaluronans (Profhilo) is based on the activation of the procollagen effect on keratinocytes and fibroblasts, which eventually increases the synthesis of the extracellular matrix and potentiates the differentiation of adipose stem cells. Although this procedure is considered safe, some adverse effects, including injection-site reactions, have been reported and documented previously. However, most of the adverse events reported so far could be handled medically, and the patients’ satisfaction remained high even after such complications. Therefore, HA is considered safe to use in many medical centers. In addition, according to previous case reports, some skin lumps or nodules may appear in locations different from the site of injection, which could be explained by an immediate reaction after injection or by an inflammatory reaction that occurs early or late after injection.

Recently, published evidence suggests that the appearance of the nodules could be because of the migration of the HA filler to a distant site, such as the orbit. Still, none were reported as subconjunctival mass requiring surgical intervention. Our case is distinctive because it supports this probable adverse effect of HA fillers spreading and migrating to distant areas and brings an interesting case, which to the best of our knowledge was not reported before. In this case, there were several factors suggesting that the source of the mass was directly related to the HA filler injection. The point at which the patient was injected was the zygomatic protrusion, which is anatomically closest to the eyeball from the other points of intradermal administration. The mass’s appearance time, corresponded to the material properties, which are believed to spread over several weeks. Finally, the jelly-like consistency of the mass supports the assumption that the subconjunctival mass contained the HA content of the filler. The pathologic sample was too small to provide a full

Fig. 1. Anterior segment picture of the left eye, showing a mobile, 3- × 3-mm mass in the nasal (A) and the inferior (B) subconjunctival tissue. Note the mass was easily moved from (A) to (B) by an applicator.

Fig 2. (A) Anterior segment picture of the left eye shows the lesion’s unusual shiny appearance. (B) Anterior segment picture of the left eye taken during the lesion’s surgical removal. The lesion was held by surgical forceps while demonstrating the rubbery consistency of the mass, unlike other typical subconjunctival lesions.
proper report; however, there was evidence of a large amount of amorphous fluid covered by epithelial cells. In conclusion, injection of HA fillers in the vicinity of the eye can facilitate its migration under the conjunctiva, in some cases, requiring surgical removal. Treating dermatologists, clinicians, and patients should be aware of such possible complications of HA filler injection.

Conflicts of interest
None disclosed.

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