Given the remote locations of our patient's tumors (right thigh and left chest wall) and normal whole-body MRI in the interim, a metastatic lesion is unlikely. We conducted an electronic literature search for cases of two primary DFSP lesions occurring in the same patient. We were able to find only one case report of a patient noting two separate DFSP lesions occurring in separate pregnancies.[4] The reason for the rarity of reported second primary tumors is unknown but could be because of the mathematical probability of a second rare acquired disease occurring in the same patient. Furthermore, this case demonstrates features of the Bednar and fibrosarcomatous subtypes, which is an uncommon occurrence that has not been reported in a second primary DFSP.

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Delayed Migration of Hyaluronic Acid Fillers: A New Complication?

Dermal fillers have quickly become a popular minimally invasive cosmetic procedure in the United States, second only to neurotoxins[1]. When used appropriately by a skilled physician they are safe, although adverse events and complications can occur. Common adverse events include bleeding, swelling, ecchymosis, nodularity, and pain with injection. These events are self-limiting and usually resolve within a week of injection. Rarer complications can include infection, biofilm formation, asymmetry due to product migration or poor technique, inadvertent arterial compromise with subsequent necrosis, granuloma formation, allergic reactions, and blindness.[2] Nonanimal stabilized hyaluronic acid (NASHA) fillers placed too superficially may cause a bluish discoloration, known as the Tyndall effect. These hyaluronic acid fillers usually last approximately 6 to 9 months before the host's immune response degrades then. We present three cases of persistent hyaluronic acid filler that resulted in bluish discoloration and subsequent migration over 2 to 5 years after placement. All patients were satisfied with their results at the 2 week follow up and re-presented at the time of onset of discoloration.

Case 1

A healthy 48-year-old woman was treated in April 2005 with a total volume of 1 mL (approximately 0.5 mL on each side) of NASHA under each eye. The same volume was injected again in October 2005, April 2006, September 2006, February 2007, August 2007, and February 2008. In May 2009, 0.2 mL of NASHA was placed under the left eye only. The left tear trough was treated again in November 2009 and May 2011 with 0.3 mL of NASHA at each visit. In November 2011, she presented with a new onset of violaceous discoloration under both eyes that was incised with a number 11 blade to the dermal–subcutis junction, and a jelly-like material was expressed (Figures 1 and 2).

Case 2

A 55-year-old woman with no significant past medical history was seen in March 2006 for lipoatrophy under her eyes. A volume of 0.5 mL of NASHA was injected into each tear trough. One year later, 0.4 mL of NASHA was injected into the left tear trough only. In 2011, she returned because of a bluish discoloration under both eyes. NASHA was extruded through a number 11 blade stab incision from under the right eye with complete resolution.

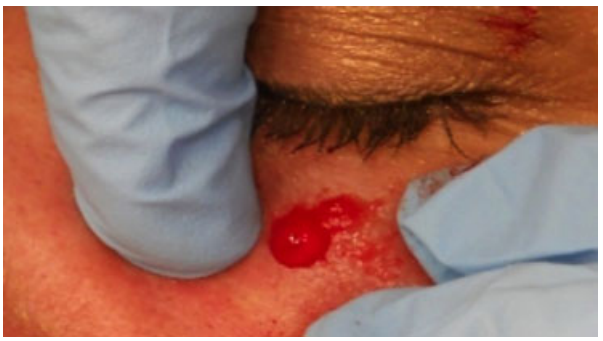

Figure 1. Hyaluronic acid being expressed manually.

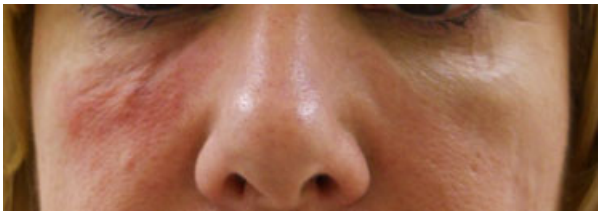

Figure 2. After expression of hyaluronic acid from right side and before treatment of left side.

Case 3

A 56-year-old woman with no significant past medical history was seen in consultation in March 2007 for lipoatrophy under her eyes. A volume of 0.6 mL of NASHA was placed in the right tear trough and 0.4 mL in the left tear trough. Over the next 3 years she was seen at regular intervals, and a total of 3.6 mL of NASHA was placed into the right tear trough and 3.4 mL into the left tear trough. In March 2012, 2 years after her last injection, she returned with a complaint of bluish discoloration under both eyes. An incision was made under her left eye with a number 11 blade, with resulting extrusion of visible hyaluronic acid product. Remaining product was dissolved with hyaluronidase 0.2 mL (Alliance Medical Products, Irvine CA, 150 U mixed with 2 mL of 1% lidocaine, resulting in 7.5 U in 0.1 mL; Figure 3).

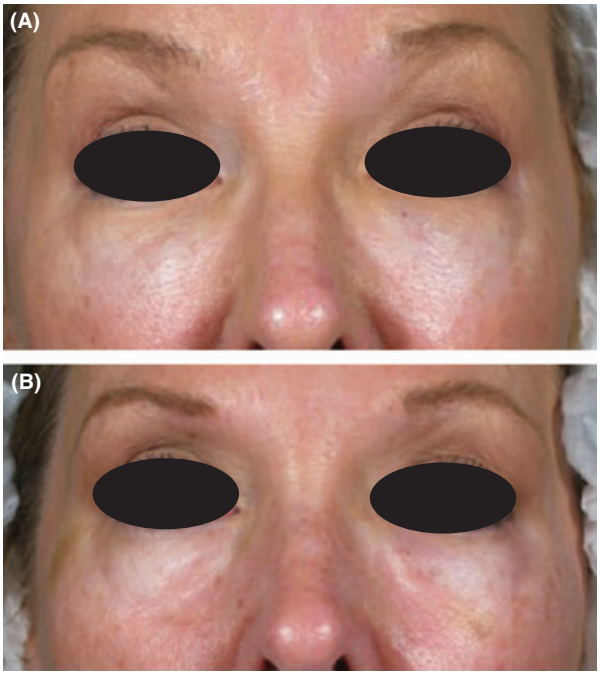

Figure 3. (A) Fullness with Tyndall effect. (B) Right: product has been dissolved with hyaluronidase. Left: product remains.

Discussion

Hyaluronic acid fillers are extremely popular because of their favorable safety profile and potential for dissolution with hyaluronidase. Because of the natural thinness of the skin below the eye, placement of filler in the tear trough should be deep, below the orbicularis oculi just above the bone. An experienced physician (NL) injected all of our patients, and product was placed deep to the orbicularis oculi muscle with a 30-G needle inferior to the orbital bone and massaged into proper position. No patients had a history of eyelid surgery, although patients 1 and 3 had had periorbital botulinum toxin injections intermittently. To the best of our knowledge, this is the first published case report of hyaluronic acid causing a delayed Tyndall effect due to migration of product superficially, years after implantation.

There may be a subset of patients who do not break down hyaluronic acid normally when it is placed in the submuscular plane, leading to undegraded product migration upward into the dermis. It may be that, when the product is placed in this plane, it is able to evade the typical inflammatory response to foreign bodies. Furthermore, the contractions of the orbicularis oculi over time may slowly aid in the superficial migration of the hyaluronic acid. Some practitioners who have recognized this phenomenon (LD, SEC) feel that undercorrection (~30–40%) and smaller volumes (<1 mL per treatment) decrease the chance of product migration. Suction from tight goggles can also increase this risk.

Correction in the tear trough with fillers is a highly successful procedure with low risk of adverse events. It also often obviates the need for lower lid blepharoplasty. To our knowledge, there is no way to completely avoid this complication. Fortunately, it is easily correctable when it happens. It is important to recognize this phenomenon when evaluating patients many years after filler implantation.

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Nonablative Fractional Resurfacing for the Treatment of Iatrogenic Hypopigmentation

Treatment of hypopigmentation of differing etiologies in patients with dark skin types has limited efficacy and variable safety profiles. These treatment modalities include the excimer laser, 1,550-nm erbium-doped laser with concomitant topical treatments, and autologous melanocyte