Moved to Beverly Hills
Payman J. Danieipour, MD, and John Layke, MD, literally loaded up the truck and drove
Fillers p16
Gummy Bear Implants p22
Butt Lifts p28
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When Good Fillers Go Bad
Both the treating surgeon and patient must be aware of these common complications

By Joseph Niamtu III, DMD

ost cosmetic surgeons that were not “injection oriented” a decade ago now realize that fillers and neurotoxins have become an integral and necessary part of contemporary cosmetic surgery.

All fillers are capable of causing complications and most complications occur proximal to the syringe, meaning they are the fault of the surgeon or injector. When discussing filler-related complications, one must differentiate sequelae from true complications. Swelling and redness are sequelae; and hematoma, overfill, or granuloma are complications.

Some of the more commonly seen filler “complications” include the following:
- Swelling;
- Bruising;
- Asymmetric fill;
- Overcorrection;
- Tyndall Effect (superficial injection);
- Hematoma; and,
- Herpetic flare.

NO PAIN, LOTS OF GAIN
Although pain control may seem out of place in an article about filler complications, I believe it is extremely relevant. One thing that has always amazed and bothered me is the cavalier attitude that many injectors take when it comes to pain control with filler injection. One of the best ways to get a grip on this concept is to get filler injections yourself, which usually makes most injectors think differently on the subject.

Injecting a numb patient is a better experience for both the surgeon and patient, and a more precise procedure can be performed when pain is removed from the experience.

I always shake my head when I hear an experienced injector say, “My patients are tough; they don’t need pain control.” These are the type of doctors I want doing business down the street, because sooner or later I will get their patients. I can’t tell you how many filler patients that have come to my office, who have repeatedly had filler injection in other practices and then became my permanent patients because my procedure was painless.

They best way for a surgeon to understand this concept is to think about the dental model. Many people judge their dentist not by competence but by the comfort level of the visit.

Most physicians assume that because they can inject the nasolabial fold without local anesthesia, that anesthesia is not necessary. Wrong. If rethought, the entire process can be made painless.

For facial cutaneous filler injection, I first mark the patient and apply a BLT-type topical anesthetic (20% benzocaine, 6% lidocaine, and 4% tetracaine) on the skin. BLT topical anesthesia can be compounded by most local pharmacies. Then I use a 1 cc syringe with a 32-gauge needle and inject lateral and deep to the nasolabial fold as to not distort the area to be filled. By placing 0.05 cc’s of 2% lidocaine with 1:100,000 epinephrine in two to three areas from the nasal base to the lips, the remainder of the procedure will be 100% painless. Trust me when I say my patients are appreciative and loyal when I do this.

For lip injections, I use a “mini block” technique that I have published in the past. As soon as the patient arrives at the office, the lips are wiped with alcohol and marked with a surgical marker. A thin coat of BLT topical anesthesia is applied to the inside of the lips (and sulcus) and the vermilion. After 5 minutes, I perform four to five injections of the aforementioned local anesthetic just above the sulcus in the upper lip and just below the sulcus in the lower lip.

It is important to use a 1 cc syringe and a 32-gauge needle, as the injection mechanics and pain perception are minimal with this setup. I inject 0.1 cc into several areas from the canine tooth on one side to the canine tooth on the other side (Figure 1, page 18).

At this point, I apply ice to the lips; after 5 minutes, the patient is ready for painless lip augmentation. I am not an advocate of nerve blocks, as they leave the patient with an entirely numb face when they leave—patients do not appreciate this. In addition, as the frequency of “missed” blocks is high, infiltrations always work. Immediately postinjection, ice is reapplied.

My approach has a few drawbacks. First, it takes a bit longer than most procedures; however, in the long run this pays off exponentially. Second, when patients are anesthetized by the mini-block technique the lip movement will frequently be affected; therefore, the patient must be marked before the injections so that the landmarks are not lost by the decrease in
patient back for follow-up appointment, you simply won't know.

From a marketing standpoint, every time you get a patient to return to your office for any reason, you can make positive marketing impressions. And the more they come to your office, the more they bond with you as their surgeon—plain and simple.

TREATING COMPLICATIONS

Irregular fill. When patients see me after working with another physician, the most common complication is "lumpy" fill, which can be prevented by judicious massage by the injector at the time of treatment. My assistant keeps a small dollop of Vaseline on the back of her glove, which I continually use to coat the patient's skin or lips and massage during and immediately after the injection. This simple method will obtain a homogenous fill and prevent visible and palpable lumps.

Undertreatment. This is a common complication, in part due to the cost of fillers. Many patients attempt to gain "unrealistic mileage" from a single syringe of filler. We have all had the patient who presents with the desire to purchase a single syringe and wants multiple areas treated. Another cue to this syndrome is when a preinjection consultation begins with the patient asking "...and if you have any filler left over ..."

Patient expectations must be clarified in terms of filler coverage. I refuse to inject the nasolabial folds of most adults with a single syringe of filler because most adults will obtain a suboptimal result—more material is needed. Trying to please them with a single syringe has too often ended with an unhappy patient because the result was subpar. Trying to be the "good guy" will sometimes make you out to be a villain, which equates to negative marketing. "Save your money and return when you can afford two syringes," is what I tell the patient with unrealistic expectations.

Another common cause of undertreatment, especially for the novice injector, is injecting too deeply when treating the skin, wrinkles, and folds. Most of the common fillers are meant for intradermal injection and, if injected into the subcutaneous plane, they lateralize instead of plump. When I teach filler injections, I stress that if you can't see the wrinkle of fold improve as you inject, you are too deep.

Overfilling. Underfilling is pretty easy to deal with: Add more filler. However, overfillment presents additional challenges.

The first consideration is the nature of the filler. Permanent fillers—such as silicone oil, Artefill, or even autogenous fat—can be very challenging to remove or reduce. Long-lasting fillers such as Radiesse or Evolence can also present challenges in the area of removal or reduction.

The hyaluronic acid fillers, though, have an inherent "insurance policy," as they can be quickly and easily reversed with hyaluronidase.

When a patient presents with an overfilled area, conservative treatment should be employed. Sometimes, regardless of the filler, simply having the patient manually massage the overfilled area in the direction of the normal side can reduce the area of excess. Another way to deal with excess filler is to make a puncture over the area of excess and attempt to extrude it (Figure 2).

As stated earlier, a big advantage of using hyaluronic acid fillers is the fact that they can be quickly, easily, and safely reversed. Hyaluronidase is an enzyme that hydrolyzes hyaluronic acid. The action is rapid and occurs in several hours to several days.

When the need to reverse a hyaluronic acid filler presents, the hyaluronidase must be injected at the level of the filler. When reversing a hyaluronic filler in the tear trough (nasojugal groove) region, the hyaluronidase must be injected at the periosteal level and/or any area of fill. Similarly, when reversing a treatment given to the skin or lips, the hyaluronidase must be deposited in any area that contains the filler.

Hyaluronidase can be purchased in 1 cc vials containing 150 units of hyaluronic acid. I mix this with 1 cc of local anesthesia or saline, which yields 2 cc's of 75 units each.

When I want to reverse all the filler, I inject 75 units in the tissue plane.
containing the filler. This
would include one side of a
tear trough (nasojugal fold),
one nasolabial fold, or a single
lip. If I want to reduce but
not eliminate the total filler
volume, I inject about 15 units
for a subtotal reduction. This
enzyme will also dissolve some
of the native hyaluronic acid in
the skin, which is quickly replenished. I
tell patients that the treated area may look
puckered for several days but will return
to normal.

Tyndall Effect. The Tyndall Effect is
an illusion of color that is produced.
When clear hyaluronic acid gel is injected
too superficially under the thin lower
eyed skin, it can appear blue (Figure 3,
page 18).

Blue light is more strongly scattered
than red light—the same effect that causes
the sky and ocean to look blue. This can
also be demonstrated by dissolving white
flour in clear water, which creates a blue
color.

Although some authors debate this
effect with fillers, there is no doubt it
occurs. The effect can be reversed via
hyaluronidase injection (Figure 4).

**EVERSING NON-HYALURONIC
ACID FILLERS**

Although not as readily predictable as
hyaluronic acid, other fillers can sometimes
be reduced by the injection of triamcinolone
or betamethasone into the overfilled
region.

Intralensal steroids have been shown
to decrease collagen and glycosaminoglycan
production via their anti-inflammatory
properties. Steroids have also been shown
to decrease the proliferation of
fibroblasts and are also thought
to be associated with a decrease in
plasma protease inhibitors,
allowing for an increase in
collagenase activity.

In addition, there have been
studies of the reversal of Evolence
(portico collagen) in a laboratory
model. Multiple, intentional
areas of product accumulation were created
by injecting 0.2 mL of Evolence intradermally
into the backs of test animals. After
2 weeks, the injections were repeated. The
areas were then evaluated histopatho-
logically and analyzed histomorphometrically
(height characteristics) after an additional
2 weeks.

After 4 weeks, saline was injected in the
control sites, and 0.25 mg/0.1 mg
betamethasone dipropionate/betametha-
sonate phosphate or 2 mg methylprednisolone
was injected into the test locations.

At the conclusion of the analysis, it
was evident that the injection of either
steroid directly into the areas of product
accumulation led to a decreased height and
presentation of Evolence collagen within
the dermis.

As new collagen fillers such as Evolence
reach the United States, the concept of
reversal with collagenase would be very
welcomed. Currently, commercial collagenase
is not available in America.

Xiaflex is a collagenase enzyme for
intralensal injection for the treatment of
Dupuytren's contracture, Peyronie's
disease, and Frozen Shoulder syndrome
(Adhesive Capsulitis). Clinical trials for this
and other uses are currently under way. If
drug becomes available and is effective
in dissolving collagen, overfill complica-
tions from Evolence and other collagen fill-
ers may be treated just as we use hyaluronii-
dase for hyaluronic acid reversal.

**CONCLUSION**

The number of filler options, longevity,
and predictability of these products has
improved dramatically over the last decade.
As with most procedures, complications
result. Both the treating surgeon and
patient must be aware of these common
complications, as well as their avoidance
and treatment options.

Joseph Niamtu III, DMD, is a board-certified
oral and maxillofacial surgeon in private prac-
tice in Richmond, Va. He can be reached at
niamtu@niamtu.com.

References for this article can be found at
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