Expanding Hematoma in Face-lift Surgery: Literature Review, Case Presentations, and Caveats

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BACKGROUND. Postoperative expanding hematoma is the most common complication seen in face-lift surgery. It has been described in 0 to 15% of all cases, and if not promptly recognized and treated, severe ischemic flap changes, with resultant necrosis, can occur. In addition, postoperative hematoma can frequently occur after normal office hours, and an organized plan of action needs to be established to effectively deal with this unpredictable complication.

OBJECTIVES. The objective of this article is to review the current face-lift literature and the author’s experience, to present the salient features of postoperative hematoma, and to alert surgeons to the prompt recognition and treatment of major hematomas following face-lift surgery.

MATERIALS AND METHODS. A review of the face-lift literature concerning postoperative expanding hematoma and its causes and treatment is presented. In addition, the author’s experience and hematoma rate are reviewed, along with several case presentations.

RESULTS. It is well known that critical postoperative hematomas occur in face-lift surgeries. No predictable set of signs or symptoms has been identified to diagnose which patients present a risk of postoperative hematoma. Common themes in patients who have experienced hematoma following face-lift include male gender, preoperative medications that affect coagulation, perioperative and postoperative blood pressure spikes, postoperative activity, nausea, vomiting, and retching. The prompt recognition and treatment of postoperative face-lift hematoma are generally easily accomplished with common hemostatic techniques, and the surgical site most frequently heals without major complications.

CONCLUSION. Major expanding hematomas have been reported in 0 to 15% of facelift surgeries, with an average of 2 to 4%. There do not appear to be any common recognizable screening factors to determine who is at risk. Close attention needs to be paid to the preoperative medical history, medication regimens, perioperative blood pressures, postoperative activity, and nausea and vomiting. Because most hematomas occur in the first 12 hours after surgery, their recognition and treatment may be after normal office hours, requiring a preemptive and organized plan of action. Significant complications are uncommon when hematomas are promptly recognized and treated. In 140 consecutive face-lifts, the author’s hematoma rate was 1.4%.

JOSEPH NIAMTU III, DMD, HAS INDICATED NO SIGNIFICANT INTEREST WITH COMMERCIAL SUPPORTERS.
pain levels. Sudden-onset pain (especially unilaterally) with unusual swelling and ecchymosis is usually representative of expanding hematoma. The patient most often feels that something is awry. I have observed trismus, ecchymosis of the buccal mucosa, and the inability to close the mouth. Although pain is reported as the primary sign of possible hematoma, I have experienced a bilateral hematoma on one patient that was not accompanied by pain, and she felt that her first postoperative day was uneventful. Expanding hematomas most frequently develop in the first 24 hours of surgery. In a study by Kamer and Song, the development of hematomas was between 1.5 and 10 hours after surgery. Rees and colleagues described hematomas occurring at 2, 4, and 5 days, and Goldwyn described a postrhytidectomy expanding hematoma from the superficial temporal vessels 10 days postoperatively.

Postrhytidectomy hematoma has been implicated with a myriad of factors. These factors include gender, the type of anesthesia used, the use of dressings and/or drains, tumescent anesthesia or fibrin glue, surgical approaches, patient postoperative anxiety and activity levels, postoperative vomiting and retching, and patient preoperative coagulation studies and medications that could affect clotting. The medical history of hypertension and the pre-, peri-, and postoperative blood pressure have also been implicated. Authors have also examined the type of face-lift technique (superficial vs deep plane). Virtually all studies show that postrhytidectomy hematoma requiring open evacuation is confined to the superficial (subcutaneous) plane. Jones and Grover observed a single hematoma in the sub-superficial musculoaponeurotic system (SMAS) layer. Hematoma in this deeper layer is probably lower owing to the tamponade effect of the less elastic SMAS layer.

In reviewing the literature on major hematomas from face-lift surgeries, there are arguments or disagreements on virtually every facet. What one author claims, another author refutes, as is the case with many common operations. Rees and colleagues examined 806 face-lifts over a 5-year period and experienced 23 expanding hematomas (2.9%) that required emergent evacuations. This study showed that 20 hematoma patients had general anesthesia, whereas only 3 hematomas were seen in the local anesthetic group. It is also interesting that in this study, more hematomas were experienced with general anesthesia compared with local anesthesia, but in their 1994 study, the inverse was observed because more hematomas were seen in the intravenous (IV) sedation group compared with the local anesthesia subset. Contrary to this, Conway found no difference in the hematoma rate between local and general anesthesia. Recent publications have condemned more contemporary variables. Kamer and Kushner implicated the use of propofol with an increased hematoma rate. Jones and Grover suggested that eliminating the use of epinephrine from face-lift surgery will decrease the hematoma rate. Despite the controversy over contributing factors for hematoma, what is consistent across the board is the fact that careful preoperative patient screening and meticulous intraoperative hemostasis are imperative. Also, excessive spikes in blood pressure should be avoided, as well as anything that contributes to nausea, vomiting, coughing, or postoperative hyperactivity. Experienced face-lift surgeons are aware that even in the best circumstances, expanding hematomas will occur. Some patients with no risk factors develop expanding hematomas, whereas others who bleed freely during surgery and are expected to develop hematomas have uneventful postoperative healing. This inconsistency of predicting which patients will experience a major postoperative hematoma is reason for the face-lift surgeon to continually maintain a high index of suspicion for all patients. The unpredictability of forecasting major hematomas is further underlined in a study by Rees and colleagues of 1,236 face-lifts that produced 23 major hematomas. In this study, none of the affected patients had statistically significant differences in gender or age, preoperative platelet and coagulation studies, and medical history problems. Furthermore, there was no statistically significant difference in smoking, chronic cough, hypertension, or antiplatelet medications.

### Table 1. Postoperative Face-lift Hematoma Rates Reported from Various Studies

<table>
<thead>
<tr>
<th>Study</th>
<th>Year</th>
<th>No. of Cases</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serson Neto et al</td>
<td>1963</td>
<td>170</td>
<td>1.2</td>
</tr>
<tr>
<td>Conway</td>
<td>1970</td>
<td>325</td>
<td>6.65</td>
</tr>
<tr>
<td>MacGregor and Greenberg</td>
<td>1971</td>
<td>524</td>
<td>8.0</td>
</tr>
<tr>
<td>McDowell</td>
<td>1972</td>
<td>105</td>
<td>2.9</td>
</tr>
<tr>
<td>Gallozzi et al</td>
<td>1971</td>
<td>100</td>
<td>3.0</td>
</tr>
<tr>
<td>Webster</td>
<td>1971</td>
<td>221</td>
<td>0.9</td>
</tr>
<tr>
<td>Pitanguy, Ramos, Garcia</td>
<td>1972</td>
<td>1,600</td>
<td>5.5</td>
</tr>
<tr>
<td>Morgan</td>
<td>1972</td>
<td>40</td>
<td>2.5</td>
</tr>
<tr>
<td>Rees et al</td>
<td>1973</td>
<td>806</td>
<td>2.9</td>
</tr>
<tr>
<td>Barker</td>
<td>1974</td>
<td>163</td>
<td>1.3</td>
</tr>
<tr>
<td>Rees et al</td>
<td>1974</td>
<td>1,236</td>
<td>1.86</td>
</tr>
<tr>
<td>Black</td>
<td>1976</td>
<td>1,804</td>
<td>2.7</td>
</tr>
<tr>
<td>Berner et al</td>
<td>1976</td>
<td>284</td>
<td>1.0</td>
</tr>
<tr>
<td>Baker et al</td>
<td>1977</td>
<td>1,500</td>
<td>3.0</td>
</tr>
<tr>
<td>Leist et al</td>
<td>1977</td>
<td>324</td>
<td>3.1</td>
</tr>
<tr>
<td>Schnur et al</td>
<td>1978</td>
<td>922</td>
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<tr>
<td>Thompson and Ashley</td>
<td>1980</td>
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<tr>
<td>Cohen and Webster</td>
<td>1981</td>
<td>3,203</td>
<td>3.9</td>
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<tr>
<td>Pitanguy and Ceravolo</td>
<td>1984</td>
<td>512</td>
<td>0.78</td>
</tr>
<tr>
<td>Kamer et al</td>
<td>1995</td>
<td>386</td>
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<tr>
<td>Kamer and Kushnick</td>
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<td>115</td>
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<td>Lawson and Naidu</td>
<td>1995</td>
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<td>Sullivan et al</td>
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<tr>
<td>Grover et al</td>
<td>2004</td>
<td>678</td>
<td>4.4</td>
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<tr>
<td>Niamtu</td>
<td>2005</td>
<td>140</td>
<td>1.4</td>
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Many other contributing mechanisms have been suggested in the formation of major hematoma following face-lift. When an artery is transected, it may undergo vasospasm and retract. As this phenomenon reverses (possibly hours later), the vessel can again bleed. This and the fact that injected epinephrine will wear off and cause oozing are implicated as causative factors. To combat this, some authors do not close any face-lift flaps until the procedure is completed and normotensive pressures are obtained. Mention is also made of the fact that the head being turned in a given direction could compress vessels that may bleed on intraoperative postural change.16 Given the inconsistency of predicting hematomas, a major consistency does exist in that almost all patients heal without any major problems when the hematoma is promptly recognized and surgically evacuated in a timely manner. Like retrobulbar bleeding, the prompt recognition and treatment of a major face-lift hematoma represent one of the few emergent postoperative problems seen in routine cosmetic facial surgery procedures. Because these expanding hematomas usually develop in the first 12 to 24 hours and are most often accompanied by unusual pain and swelling (most frequently unilateral), there is little excuse for failure of diagnosis and a catastrophic sequela. Recent advances in outpatient ambulatory anesthesia have contributed to the evolving trend to perform more outpatient cosmetic procedures in office surgery centers with discharge to home. This may leave patients in a situation in which a potentially serious expanding hematoma could go unrecognized. A generation ago, many rhytidectomies were performed in hospital environments, and regular nursing observation was common. In a 1973 article by Rees and colleagues, the average hospital stay for an uncomplicated rhytidectomy was 4 days, whereas the stay for a postrhytidectomy hematoma was 6.2 days.3 These figures are relatively startling for those cosmetic surgeons who have been practicing less than 15 years and are testament to how far we have advanced. With more cosmetic patients being released to their homes postoperatively, it is paramount to educate the patient and caregivers on the signs and symptoms of expanding hematoma following face-lift. If postoperative care is in question, then trained paramedical personnel should accompany the patient for the first 24 hours following face-lift surgery. In addition, all postrhytidectomy patients should be examined early in the first postoperative day.

Besides the surgical and physiologic effects that could be experienced with postrhytidectomy major hematomas, there are secondary factors to consider. First and foremost are the need to return to the surgical suite (frequently after business hours), the requirement of staff to assist the surgeon, and the probable need for anesthetic support. Needless to say, these factors can place enormous stress on the surgeon and the patient. The patient is frequently scared, as is the family or friends who are in contact with the patient. This may cause some or all of these individuals to lose faith in their surgeon. As with any surgical or anesthetic situation, the failure to have an emergency plan in place can not only produce stress, it is also unsafe. When I experienced my first major postoperative hematoma, I did not have an organized plan in place. It was difficult to contact the appropriate staff late at night. The office operating suite had not been set up after that day’s face-lift, and the anesthetic drugs were locked up. In addition, the face-lift instruments used that day had been cleaned but not autoclaved. Needless to say, this presented a very stressful situation. Learning from that experience, we now have “on-call” assignments for the critical staff, and the operating room is always set up for surgery before the staff leaves that day. Essential instruments from that day are autoclaved or a duplicate tray is ready, and appropriate and necessary drugs and anesthetics are readily available. Quoting two time-honored mottos, “It is better to have and not need than to need and not have” and “Be prepared.” Arrangements are made in advance to have skilled nursing care accompany elderly or medically compromised patients or those patients who have no or questionable postoperative support at home. Having a “hematoma emergency plan” can make a huge difference in how smooth or stressful the next 24 hours will be for the doctor, staff, patient, and family. Performing face-lift surgery early in the week may also be preferable because it is usually more difficult to mobilize appropriate staff on weekends.

I and others have experienced smaller but nonetheless expanding hematomas immediately after surgery.35 In some cases, the blood may be rolled out through the suture and staple lines or a small rubber catheter can be inserted between sutures to evacuate the blood. Immediately after draining, a new compressive dressing is placed, and this may control the bleeding. Rebleeding after these measures would require complete takedown of the flap, exploration, and control of bleeding.

Minor hematomas or seromas are smaller accumulations of blood or serum that cause swelling but do jeopardize the flap’s viability. These are more common than major expanding hematomas and are usually treated by syringe aspiration with an 18-gauge needle (Figure 1). Since the skin is frequently insensate in the immediate postoperative period, no anesthesia is required. Some of these minor hematomas will require drainage for several consecutive days.

Once a major expanding hematoma is recognized, an immediate plan of action should be instituted. Although respiratory distress is rare, its presence represents a true medical emergency, and the wound must be opened at bedside or on the way to the surgical suite. It is hoped that the patient was warned before the surgery about this possibility and understands that the problem will be corrected and that the result will likely be unaffected. It is imperative to reassure patients and their family that things will work out.
and that all face-lift surgeons experience this complication on occasion. Just having a postoperative hematoma is an unpleasant experience for a patient, and experiencing undue pain during hematoma treatment can drastically exacerbate an unpleasant experience. Unpleasant patient experiences translate into negative marketing, which may affect the surgeon’s reputation. Owing to this, it is highly preferable to use at least IV sedation on the average patient. Attempting to remove sutures and staples, evacuate a clot, cauterize bleeding vessels, and reclose the incisions on an awake, apprehensive patient is an extremely stressful experience for everyone in the room. I also administer IV antibiotics and steroids during the procedure.

Generally, the entire face-lift incision must be reopened to provide enough access to view and treat bleeding. Most frequently, a hematoma is the result of multiple bleeding sites and is not related to a single bleeder. In addition, the pooled blood under a flap acts as a foreign body and irritant, which promotes further bleeding. Once the suture lines are opened, the classic liver clot is gently removed with a large-bore suction and wiping with moist gauze. Once the clot is removed, some vessels are immediately identified and can be cauterized. It is important to remember that these vessels may be on the subcutaneous flap, on the flap itself, or, rarely, deep to the SMAS. Sterile saline solution is then washed over the tissues to identify areas of oozing. These areas are, in turn, cauterized with a bipolar forceps or with a ball electrode using a radiofrequency generator.

It is important to perform the control of bleeding in a normotensive anesthetic environment or to restore the patient to a baseline blood pressure before reclosing. Some surgeons will also treat the bleeding areas with microfibrillar collagen or topical thrombin preparations. I also irrigate the flap with an antibiotic solution of cephalexin or clindamycin prior to reclosure. Finally, all incisions are once again closed with sutures and staples.

I retrospectively examined 140 consecutive rhytidectomies (132 females and 8 males) performed using either SMAS plication, imbrication, or SMASectomy. Three hematomas on two female patients were encountered in this review, for a hematoma rate of 1.4%. The first was a bilateral hematoma discovered at the first postoperative day in a female patient with no risk factors that was attributed to overactivity in the immediate postoperative period. It is interesting that significant pain was never a manifestation in this case. The patient and caregiver had no idea that anything was amiss. In a second case, a unilateral hematoma occurred 7 hours postoperatively in a female patient without risk factors. The cause of this hematoma was attributed to arterial bleeding and is detailed in the following case report.

**Case Reports**

**Case 1**

A healthy, 45-year-old female presented for face-lift, chin implant, and fat transfer from the abdomen to the face. Her preoperative health history, coagulation studies (prothrombin time [PT], partial thromboplastin time [PTT], international normalized ratio [INR]), and electrocardiogram were normal. Her blood pressure at her physical

Figure 1. (A) A minor hematoma or seroma that is not threatening to the flap viability and is treated by simple needle aspiration (B).
examination was 100/60 mm Hg. The patient was anesthetized with monitored IV sedation. Her peak intraoperative blood pressure was 140/72 mm Hg, and the surgery and recovery were uneventful, with her recovery blood pressures in the range of her preoperative blood pressure.

The patient was called on the evening of her surgery to check on her condition, and she said that she was feeling great and recovering uneventfully. She presented for her 24-hour follow-up and dressing change, and when her bandages were removed, a pre- and postauricular hematoma was noted on her right side and a preauricular hematoma was present on her left side (Figure 2).

The photograph in Figure 3 shows the left preauricular flap elevated, exposing the clotted hematoma. The hematomas were evacuated bilaterally, and multiple bleeding points were cauterized. The recovery was uneventful.

Case 2

A visually impaired, 45-year-old, white, female patient was scheduled for routine rhytidectomy with concomitant upper blepharoplasty. The patient's medical history was positive for asthma, for which she took aminophylline. Her preoperative history and physical examination were negative for any serious risk factors, and all laboratory tests, including chemistry, complete blood count, and electrocardiogram, were within normal limits. The platelet count was elevated at 596 (10e3/mL) (normal 140–414 10e/mL). Previous platelet studies showed similar elevation without bleeding problems during previous surgeries.

Coagulation studies were within normal limits (INR of 0.9, PT of 9.7 s, and PTT of 31 s). The hematologic consultant did not view this platelet elevation as a problem in view of other studies and previous surgeries. The patient underwent rhytidectomy with SMASectomy and concomitant blepharoplasty using general anesthesia with tracheal intubation via the oral route. Her immediate preoperative blood pressure was 120/60 mm Hg, and her intraoperative blood pressures never exceeded this value. The procedure and recovery were uneventful, and the highest recorded blood pressure reading in the recovery suite was 156/87 mm Hg. Her blood pressure returned to baseline by the time of discharge. I checked on the patient via telephone several times that evening. At about 7:00 pm (9 hours postsurgery), the patient called and complained of right-sided facial swelling with minimal pain. The patient was called again at approximately 8:00 pm (10 hours postsurgery), and she sounded agitated and complained of increasing ear pain, swelling, blood trickling from her incision, and difficulty closing her mouth. The patient was examined at her home and exhibited distorted swelling of the entire right side of her face from the temporal region to the mid–cervical region (Figure 4).

No airway problems were present or reported. Blood was trickling from the anterior and posterior suture lines, and the right earlobe was positioned superolaterally. The patient was agitated, complained of intense facial pain, and was unable to close her teeth together. A diagnosis of right-sided postrhytidectomy expanding hematoma was made, and the patient was transported to the office surgery.
center after an explanation of the complication and anticipated treatment.

The office emergent action plan was activated by calling the staff member on call, who, in turn, summoned additional staff and prepared the office for anesthesia and surgery. Two staff members presented to assist, and IV access and appropriate patient monitoring were instituted. The patient had normal oxygen saturation blood pressure, pulse, and electrocardiogram. Light IV sedation using ketamine, propofol, and midazolam was administered, along with appropriate local anesthesia. One gram of cephalexin and 8 mg of dexamethasone were also given via IV access. All sutures and staples were removed, and the flap was retracted. A copious “jello” or “liver clot” was seen underlying the entire lipocutaneous flap (Figure 5A).

No areas of this flap showed any sign of loss of perfusion or engorgement. A 3 mm Frazier suction tip was used to remove the gelatinous hematoma. After removal of the hematoma, multiple bleeding surfaces were visualized with surgical loupes and headlight illumination. A distinct, small, pumping arterial bleeder in the midcheek was isolated and cauterized with bipolar forceps. Another small venous bleeder was cauterized on the dermal surface of the flap. I use 4.0 MHz radiofrequency (Ellman International, Oceanside, NY, USA) for hemostasis instead of traditional “electrocautery” because it causes less lateral tissue damage. Several other small oozing areas on the SMAS surface were cauterized (Figure 5B). Figure 6 shows various methods of cauterizing bleeding vessels or tissue.

The area was then copiously irrigated with saline to identify any further oozing. Surgical sponges soaked in chilled saline were then packed inside the wound and held under pressure for 10 minutes (Figure 7A). The sponges were removed, and the area was irrigated with cephalexin. Direct observation for 10 minutes did not show any further significant bleeding or oozing, and the incisions were closed routinely (Figure 7B).
Figure 5. (A) Extent of the hematoma under the pre- and postauricular flaps. (B) The surgical area after careful cauterization of the bleeding vessels and areas of oozing.

Figure 6. (A) The Ellman Empire microneedle cauterizing a vessel by conducting through a tissue pickup. (B) An insulated bipolar forcep. (C) An Ellman 5 mm round ball electrode, which is useful for coagulating tissue surfaces with generalized oozing.

Figure 7. (A) The wound packed with iced saline gauze after all bleeders were controlled. (B) The closed incisions after treatment.
A light pressure dressing was placed, and the patient was observed for 1 hour until she was stable for discharge to her home. The patient was seen the following morning; no further bleeding had occurred, and the flap appeared to be normal, without signs of perfusion abnormality. The sutures and staples were removed at 1 (Figure 8) and 2 weeks, respectively, and the patient healed uneventfully, as shown in Figure 9.

Discussion

Critical postrhytidectomy complications can never be fully prevented, but one can be prepared for them. Postrhytidectomy expanding hematoma can be viewed in three time frames: pre-, peri-, and postoperatively. Although no literature has provided a fail-safe set of predictors as to which patients are at risk and which are not, common sense would guide us to closely monitor all preoperative face-lift patients for any medical condition that could predispose them to problems with clotting or bleeding. Many individuals are on some type of prescription or over-the-counter medications that may affect the coagulation system. Innocuous herbs, such as the “3 G’s” (ginkgo, garlic, and ginseng), can affect coagulation and blood loss. These medications must be identified and appropriately adjusted, sometimes weeks before the operation. Desmopressin has been shown to counteract some of the anticoagulative effects of aspirin and nonsteroidal anti-inflammatory medications. Some surgeons administer 10 mg of vitamin K intramuscularly immediately before surgery to enhance coagulation in patients with no cardiac history. Platelet quality may also affect coagulation, and a bleeding time could identify a problematic patient who may present with a normal PT or PTT.

Hypertension is prevalent in our society, and many patients are not compliant with medications and treatment regimens. Careful consideration should be made to preoperative control and the regulation of perioperative and postoperative blood pressures. Clonidine hydrochloride 0.1 to 0.2 mg has long been a mainstay of treatment for face-lift patients. This drug is frequently given preoperatively and sometimes for several days postoperatively. I frequently use labetalol in 2.5 mg doses to lower elevated pressures in the perioperative and postoperative periods.

All patients must understand the basic pretense of major hematoma occurrence and prevention. It has been said that the “biggest problem with communication is the illusion that it has taken place.” Hematoma recognition and the need for bed rest in the first 48 hours cannot be overstated to the patient. This especially includes the appreciation and understanding of activity following face-lift, which includes bending, straining, coughing, vomit-

Figure 8. The patient is shown 7 days after the hematoma was evacuated. The pink periorbital areas are from laser skin resurfacing.
ing, excessive talking, Valsalva’s maneuvers during defecation, intercourse, exercise, or other strenuous activities in the first several postoperative days. I make sure that patients are presented with this material several times over the weeks preceding the surgery and receive written instructions, not only for their use but also for their caregiver’s. In addition, these instructions are listed on my Web page for convenience (<http://www.lovethatface.com>). All patients sign a form preoperatively indicating that they have read and understand the postoperative instructions.

The physician’s compliance is required in the perioperative phase of the face-lift. All surgeons should closely monitor intraoperative blood pressures and treat them correspondingly. It is also very important to restore the patient to the normotensive state before closing incisions; otherwise, bleeding can occur when the pressure returns to normal and/or when the local vasoconstrictor wears off. I keep the use of intraoperative narcotics to a minimum to decrease postoperative nausea and vomiting. The intraoperative use of propofol, dexamethasone, and ondansetron (Zofran, GlaxoSmithKline, Inc. Research Triangle Park, NC, USA), promethazine, and metoclopramide has been shown to decrease postoperative nausea and vomiting, which, in turn, may decrease hematoma formation. Close attention to other intra-anesthetic factors, such as the continual use of local anesthesia, prevention of bladder distention, extremity malposition, or other factors that can cause pain, can also assist normotensive anesthesia. I prefer conscious sedation using propofol, ketamine, and midazolam with a minimally invasive airway (such as a nasal trumpet or Rusch tube) over general anesthesia in most patients (Figure 10).

A nasal cannula can be inserted into the airway for supplemental oxygen, and end-tidal CO$_2$ can be measured from the other nostril. When general anesthesia with intubation is used, the anesthetist is encouraged to extubate the patient as soon as possible before he or she becomes agitated from airway irritation of the endotracheal tube. Extended intubation in a “light” patient can result in coughing, retching, and general agitation, causing hypertension.

The hair is washed, and a moderate pressure dressing is placed. In the transition from the operating room to the recovery room, pain is controlled by very small doses of IV meperidine or fentanyl. The recovery environment is kept dark and quiet, with the patient’s relative at the bedside as soon as the patient is stabilized. Ambulatory patients are observed for approximately 2 hours postoperatively, and the pressure dressing is checked and/or changed prior to discharge.

If nausea is experienced in the postoperative period, ondansetron orally disintegrating tablets have proven to be rapidly effective.

Many surgeons have conflicting reports about anesthesia preferences and hematoma rates. In 140 consecutive face-lifts, this author’s hematoma rate was 1.4%. Yoho and colleagues reported that the hematoma rate with mon-
A Rusch tube is longer than a nasal trumpet but much shorter than an endotracheal tube. This tube keeps the posterior tongue off the pharynx to prevent obstruction.

It appeared that the hematoma rate is less with general or monitored IV anesthesia than with local anesthesia only. \(^{39}\) They further implied that the hematoma rate is less with general or IV anesthesia compared with local anesthesia because the aforementioned techniques allow for better control of intraoperative blood pressure.\(^{39}\)

**Conclusion**

Hematomas appear to be an inevitable, albeit infrequent, complication of face-lift surgery. Because their occurrence can cause devastating complications associated with flap necrosis, it is paramount that all surgeons performing face-lift surgery and their staff be adept in the recognition and management of postrhytidectomy expanding hematoma. In addition, every office should have a plan in place to deal with the after-hours care that may be necessary with this complication.

**References**

15. Rees TD, Lee YC, Couburn RJ. Expanding hematoma after rhytidectomy: a review o
Commentary

The author states that major hematomas following rhytidectomy vary between 0 and 15% and 0 and 9.6%. No matter which is correct, the literature surveyed affords us a vast difference in the frequency of this major complication. How can this be so? What factors allow a major complication to occur 15 times as often in some studies as in others? Is it the specialty, the site in which the surgery was performed, the competence of the individual surgeon involved, the methodology of accomplishing hemostasis, the extensiveness of incisions, the level or levels of plane dissection, the failure to closely examine patients in the immediate and 24- to 28-hour postoperative time period with prompt intervention as required, the inadequacy of postoperative dressings and postoperative nursing care, and/or a variety of circumstances that are otherwise unforeseeable and happenstance? The answer must be “All of the above—on occasion.” Scrupulous hemostasis, checked and rechecked again, is a sine qua non of success. Closing over “minor” bleeding, although practiced by some, should be anathema. Large vessels (as well as nerves and ducts) are virtually absent in a properly tumesced plane of dissection, and deep plane dissections (already waning in popularity because of complications) are to be avoided by dermatologic surgeons. Bipolar coagulation is to be preferred over the tissue insult of direct cautery.

The most important factors must be the training and competence of the individual surgeon, the selection of reasonable candidates, and the realization that surgery does not finish when the last sutures are placed—or even removed. The author claims a hematoma complication rate of 1.4%—apparently a statistically noteworthy accomplishment. All of these major hematomas occurred with general IV sedation, modalities with which he is presumably familiar. Dermatologic surgeons are more likely to get by without such anesthetic intervention and seem far more likely to use blunt dissection, nerve blocks, and tumescent anesthesia rather than risk interfering with respiration in their office operators. The author notes that the complications reported by Jones and Grover are less with tumescent anesthesia, even with the patients anesthetized. We have long known that fact. Perhaps that should become the major lesson here and that more aggressive general or IV anesthesia, with all of the attendant risks, is not necessary for rhytidectomy patients.

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References

Conservative Management of Flap Necrosis after Expanding Hematomas for Face Lifting Surgery

Letter to the Editor:

In his recent article, Dr. Niamtu outlined an important issue of facial esthetic surgery. Complications of face lifting quite often derive from expanding hematomas. If these are promptly recognized, common hemostatic techniques resolve them, and the surgical site heals without major complications. On the contrary, when treatment is delayed, results can be devastating and difficult to deal with. We report a successful salvage, out of five cases recorded, of a necrotic bilateral area with a conservative approach that consisted in waiting for necrosis stabilization and in preventing infections with local medications.

A 66-year-old woman was admitted last July for a mid face-neck lifting. Her history was positive for essential hypertension, controlled with calcium channel blockers, and smoking (15 cigarettes/day from 40 years), stopped 30 days before recovery. We performed a bilateral superficial musculoaponeurotic system dissection with subsequent mobilization, advancement and closure of flaps. The exceeding portions were resected. Two days later, flap vascularization was normal and only a mild tissue edema persisted. The patient was discharged and instructed to present for follow-up after 1 week. She came back only 2 weeks later because of terrorist attacks in London. She had a wide bilateral area of necrotic tissue in both the cutaneous flaps and extending 3 cm into the neck (Figure 1). The necrosis had no signs of infection. All vital signs and blood chemistry were normal.

We allowed the patient to recover and began a systemic antibiotic therapy (intravenous cefadroxil 2 g/day), combined with local medications (topical gentamicin
and betadine solution). After 3 days, she was discharged and continued flucloxacillin orally (500 mg/day for 5 days) and local medications. Six weeks after the lifting, both necrotic areas appeared well demarcated and clean (Figure 2). At this time, we removed, with local anesthesia, the superficial necrosis and medicated with betadine solution. Two weeks later (2 months from the first operation of face lifting), we found an amelioration of the local conditions and an almost complete healing (Figure 3).

In these cases of unrecognized postoperative expanding hematomas, the correct approach is not standardized and should be planned on a patient-to-patient basis. In our experience, a conservative management yielded positive results in five patients because it did not complicate the local situation and gave the possibility to tissues to circumscribe the necrotic area preparing for the definitive treatment. In any case, any immediate action in the presence of local tissue edema or ischemia should be avoided.

References

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Reply:
I appreciate the positive comments made by Dr. Araco and colleagues concerning my recent article on post rhytidectomy hematoma (Niamtu, J Expanding hematoma in face-lift surgery: literature review, case presentations, and caveats. Dermatol Surg. 2005 Sep;31(9 Pt 1):1134-44; discussion 1144. Review).

The authors report 5 cases of post rhytidectomy flap necrosis presumably after hematoma. They make the point that delaying definitive treatment until the tissue and necrosis have stabilized has produced positive results in these cases.

In residency, one of my mentors told me that, “sometimes if you just leave a patient alone, nature will take a positive course”. I feel that this applies to the points made by these authors. Although each case warrants specific treatments, once the vascularity is compromised and the necrotic process begins, little can be done to halt or reverse the process. Some practitioners advocate the use of topical nitroglycerine paste or hyperbaric oxygen treatment. Generally, when this unfortunate and oftentimes catastrophic process begins, a cosmetic case becomes one of wound management.

I agree with the authors that aggressive treatment initiated too soon can further compromise the situation. The focus of the treatment to come must focus on prevention of infection, conservative debridement and ensuring revascularization of the tissue bed. Managing such a complication can be extremely stressful for the surgeon, the patient and their