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PURPOSE: Tetracycline family antibiotics have demonstrated utility as sclerosing agents for lymphatic malformations and other lesions of impaired fluid drainage, including conjunctival chemosis, eyelid festoons, and malar edema.1-3 However, the timing of improvement and patient-reported subjective outcomes for esthetic use of doxycycline hyclate injections in treating lower eyelid festoons and malar edema is not well-reported. The purpose of this study was to evaluate subjective patient satisfaction and timing of improvement of cosmetically significant lower eyelid festoons and malar edema treated with direct, intralesional injections of doxycycline hyclate.

METHODS: An Institutional Review Board–approved, retrospective review was performed. Inclusion criteria were patients with lower eyelid festoons and/or malar edema treated with direct, intralesional injection of doxycycline hyclate at a concentration of 10 mg/ml. Exclusion criteria were inadequate follow-up, alternate doxycycline concentration, or alternate intervention during the observation period. The primary outcome measure was patient self-reported improvement which was graded as percentage improvement at each visit. Additional data collected included injection volume, concentration, timing of repeat injections, and any subjective patient-reported complaints. Standard statistical calculations were performed.

RESULTS: Twenty-seven treatment areas of 15 patients met inclusion criteria. Average length of final follow-up was 20 weeks (SD, 16 weeks; range, 4–56 weeks). Overall, 9 out of 15 patients subjectively reported complete resolution of their lower eyelid festoons or malar edema and 13 out of 15 patients reported improvement of ≥50%. The average final patient-reported subjective improvement was 80% (SD, 27%; range, 33%–100%). The average time to final subjective improvement in appearance was 16 weeks from initial injection (SD, 10 weeks; range, 4–44). The average number of injections performed per side was 1.4 (SD, 0.64 injections; range, 1–3 injections). When necessary, repeat injections were performed at an average of 16 weeks following prior injection (SD, 3 weeks; range, 12–20 weeks). Average initial injection volume was 0.64 ml (SD, 0.29 ml; range, 0.2–1). Average repeat injection volume was 0.54 ml (SD, 0.35 ml; range, 0.2–1.5 ml). Patient-reported complaints included burning sensation and pain at the time of injection, and transient bruising, edema, and erythema following the injection. No significant dermatologic or visual complications were reported during the documented follow-up period.

CONCLUSIONS: Direct, intralesional injection of doxycycline hyclate at a concentration of 10 mg/ml subjectively improved the appearance of lower eyelid festoons and malar edema. On average, final improvement took approximately 16 weeks.

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Discovering the True Resolution of Postoperative Swelling After Rhinoplasty Using 3-dimensional Photographic Assessment

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PURPOSE: Although prolonged nasal edema is a well-known sequela after rhinoplasty, the anticipated time to resolution and anatomical distribution of edema remain largely anecdotal. Nasal swelling obscures the delicate contours and definition of the nose, and it is particularly noticeable in the nasal tip. Edema and lack of definition in the nasal tip may affect patient satisfaction and prolong the assessment of the final esthetic result. The following study set out to quantify the dynamics and anatomic distribution of postoperative edema after rhinoplasty.

METHODS: Consecutive patients undergoing primary open rhinoplasty in 2018 were included in this study. Retrospective analysis of postoperative 3-dimensional photographs was performed using Canfield Vectra VAM software. Three-dimensional changes to the nose were analyzed only...
for patients who had 3-dimensional pictures at either 7 or 14 days postoperatively and ≥2 additional pictures at the following time points 45, 90, 180, and >250 days postoperatively (N = 18). Three-dimensional metrics including volume, anterior–posterior projection, horizontal width and were calculated at each interval for the upper nasal two thirds and lower third, defined as nasal tip. Edema was defined as the change in nasal volume at postoperative intervals relative to the baseline image. The distribution of edema was calculated as the percent of total nasal volume in the upper two thirds versus the lower third (nasal tip). Topographic color maps and mesh overlays were created for each interval to visualize changes to the nasal contour at postoperative intervals.

RESULTS: Maximum nasal volume occurs at 7–14 days postoperatively. The mean volume loss from 7 days postoperatively to >250 days postoperatively was 2.8 ± 0.7 ml. The distribution of edema changed over time, however, and was consistently greater in upper two thirds than the nasal tip. The anterior projection of the nasal tip was greatest at 1 week, whereas the width was minimum at 1 week. The projection decreased and width increased progressively from 7 to 90 days, with near resolution at >250 days.

CONCLUSIONS: Three-dimensional analysis reveals that nasal tip edema greater in the upper two thirds of the nose compared to the tip after rhinoplasty. Interestingly, the relative distribution of edema in the nasal tip increases over time. In this region where definition and delicate contours are obscured by minimal edema, nasal tip edema is more noticeable but less in overall volume than the upper two thirds. The behavior of overall nasal edema was comparable to prior published data. This study objectively quantifies the amount and duration of edema in the nasal tip after rhinoplasty that can guide patient and surgeon expectations. Evidence of persistent nasal tip edema serves as a therapeutic target for improving the patient postoperative course with new technology, including specialized splinting that includes support to the nasal tip as a modification to the traditional nasal splint. Further investigation into methods for improving postoperative nasal tip edema is ongoing.

Role of Tranexamic Acid in Rhinoplasty

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BACKGROUND: Tranexamic acid (TXA) has emerged as a lifesaving antifibrinolytic agent for treating traumatic hemorrhage. Despite its great popularity in other surgical specialties, published reports on TXA use in plastic surgery, especially in esthetic surgery, are limited and an optimal dosing regimen has not been yet described. The aim of this study was to evaluate the efficacy and safety profile of TXA in rhinoplasty.

METHODS: All study patients underwent rhinoplasty by a single surgeon using an intravenous bolus dose of 1 g TXA before skin incision. TXA was also added to local anesthesia (0.5 mg TXA in 5-ml saline 0.9% and 0.5 mg epinephrine in 10-ml lidocaine and 10-ml Marcaine) and injected locally before skin incision. The authors’ TXA administration protocols and techniques in rhinoplasty will be illustrated and described in detail.

RESULTS: Hospital records were reviewed for patient demographics, preoperative and postoperative hemoglobin and hematocrit, operative times, and Visual Analog Scale for pain at discharge. Postoperative periorbital ecchymoses and edema and day of return to social activity were also recorded. Neither thrombotic events nor other TXA-related complications were recorded.

CONCLUSIONS: TXAs anti-inflammatory properties are cardinal in its role in esthetic surgery, in addition to its antifibrinolytic effects. Intravenous and local administration of TXA has a substantial effect in decreasing pain, periorbital edema, and ecchymosis and achieving a faster return to social activity in rhinoplasty patients. These findings may be enormously beneficial in rhinoplasty where postoperative edema may mask results and influence patient and surgeon perception of surgical outcome for several months after surgery.

Assessing Abdominoplasty Esthetics: Do Plastic Surgery Patients See Things Differently?

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INTRODUCTION: Satisfaction is an important outcome for cosmetic plastic surgery procedures and hinges upon improvement of esthetics. Understanding the salient features that draw focus when assessing esthetics is important for maximizing perceived outcomes. Eye-tracking technology provides an unbiased method for determining the features that draw attention when evaluating esthetic plastic surgery. This study aimed to characterize viewing patterns of plastic surgery patients and laypeople when assessing pre- and post-abdominoplasty images.