Aesthetic Abstracts and Citations

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In this Aesthetic Abstract and Citations section, we highlight and briefly discuss recently published manuscripts from other peer-reviewed journals that may be of interest to our readership in oculoplastic surgery. These are just cursory reviews to peak an interest on subjects, which the individual reader may desire to pursue in more detail by reading the manuscript in full.

Bas CT, Pérez-Guisado J. A new approach: resection and suture of orbicularis oculi muscle to define the upper eyelid fold and correct asymmetries. *Aesthetic Plast Surg* 2013;37:46–50.

How to manage the orbicularis muscle in upper blepharoplasty (excision vs. preservation) is an ongoing topic of debate within and across the core aesthetic specialties. The authors of this report advocate orbicularis excision and then suture closure which they feel promotes formation of a fine crease and corrects for eyelid crease/fold asymmetries. They retrospectively reviewed the charts of 50 patients who underwent this blepharoplasty variant and noted a 98% patient satisfaction rate with no complications. One patient (2%) desired additional fat excision (not considered a complication) and was satisfied after revision. Final follow up was at 2 months and was considered long term as no variables studied changed after this time (no mention as to variables studied). The authors detail in the discussion that they feel eyelid aging leads to lax/excess upper eyelid skin, muscle, and septum. They stress that the crease is formed by the adhesion of the postorbicularis fascia, the levator aponeurosis, and the orbital septum at the upper tarsus. If muscle is not excised and resecured, "bulging" will persist and adversely affect the height and depth of the upper eyelid fold.

Message: The article merits attention whether one agrees or not with the premise as it is another in line of publications which considers the merits or problems with orbiculectomy during upper blepharoplasty. This reviewer believes crease/fold asymmetries can be equally corrected with appropriate skin excision, with or without (depending of findings) formal crease formation (supratarsal fixation) irrespective of orbiculectomy. This manuscript details a nonoculoplastic perspective which many in our society will disagree with, especially those who favor comprehensive volume preservation. The description of eyelid aging and crease anatomy warrant clarification. Figure 8, a male blepharoplasty has developed a nasal sulcus hollow after surgery (A-frame deformity) which may have been prevented with muscle/fat preservation. In the end, 98% of patients were happy with their outcome which is really all that matters. For a relatively current literature review on the subject of orbicularis excision versus preservation in upper blepharoplasty, please refer to the article by Hoorntje et al. (Resecting orbicularis oculi muscle in upper eyelid blepharoplasty: a review of the literature. *J Plast Reconstr Aesthet Surg*. 2010;63:787–92).

O'Brien JX, Ashton MW, Rozen WM, Ross R, Mendelson BC. New perspectives on the surgical anatomy and nomenclature of the temporal region: literature review and dissection study. *Plast Reconstr Surg* 2013;131:510–22.

This article provides an excellent review of our current understanding of surgical temporal anatomy documented from fresh cadaver dissection of 24 hemifaces (13 males and 11 females with an average age of 72 years). In addition, the complex and confusing nomenclature referenced in the literature regarding the various fascial layers of this area is documented. The authors elaborate on the anatomical continuity of the scalp's (superior nuchal line to eyebrows) 5 layers (layer 1: skin, layer 2: subcutaneous tissue, layer 3: galea aponeurotica, layer 4: loose areolar tissue, and layer 5: periosteum) to the temple region, and emphasize how the deeper layers (3, 4, and 5) of these anatomical segments transition and change in name. Previous descriptions have provided so many different names for these layers that it has been hard to follow. The author's description is clear, concise, and provides clarity. For example, layer 3 (galea aponeurotica) of the scalp transitions in the temple as the superficial temporal fascia (an important anatomical structure which has 14 given names in the literature—all provided in a table). The same is provided for layers 4 and 5. In addition, the ligamentous structures that traverse layers 5 to 3 (deep to superficial), and are important surgical barriers and landmarks, are described in detail. These include the conjoint fascia, the temporal ligamentous adhesion and the lateral orbital thickening. The varied other names previously given to these structures in the literature are also provided in table form. Finally, the temporal zone is anatomically separated into upper and lower compartment with descriptions of safe and unsafe areas of surgery in relation to the facial nerve.

Message: An excellent article which is a must read for all who perform surgery in the temporal region (i.e., endoscopic brow lifting). As there is so much information in the body of the text, I only highlighted some important points of reference. This article will require reading 4 to 5 times to get the full gist of the data presented and is well worth the time put in. I recommend this highly.

Maffi TR, Chang S, Friedland JA. Traditional lower blepharoplasty: is additional support necessary? A 30 year review. *Plast Reconstr Surg* 2011;128:265–73.

The authors argue that with appropriate technique, routine canthal suspension is not needed in traditional transcutaneous lower eyelid blepharoplasty in which skin is excised and fat excised or repositioned. They retrospectively reviewed the charts of 3,014 patients who underwent lower blepharoplasty over a 30-year period. Excluded from study were patients who needed canthal suspension because of preoperative eyelid laxity (only 31 patients or 1.03%), revisional surgery or for the treatment of congenital disorders or trauma, or patients who underwent transconjunctival surgery. In total, 2,007 patients underwent transcutaneous surgery without canthal suspension and were included in the report. The mean patient age was 55 years, and 88% of patients were female. The 2 nonsenior authors (S.C. and

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Accepted for publication April 24, 2013.

The author has no financial or conflicts of interest to disclose.

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DOI: 10.1097/IOP.0b013e31829a7ea4

T.R.M.) who were not involved in any of the surgeries evaluated results by chart review and evaluation of patient photographs. A postoperative complication was defined as chemosis or moderate or severe eyelid malposition (retraction/ectropion). Mild eyelid retraction (slight scleral show temporally) was not considered a complication, and in fact, it is the aesthetic preference of the authors as they appreciate a more "wide open" appearance of the eyes. There was no difference in outcomes if lower blepharoplasty was performed in isolation or in conjunction to upper eyelid surgery. No average follow-up period was noted. Twenty-four patients (1.2%) developed chemosis; all cases resolved with conservative measures. Only 8 (0.4%) of 2,007 patients developed symptomatic lower eyelid retraction which was corrected in each case with revision.

Message: This is an impressive study in terms of sheer numbers and years of study. It would have benefited from a patient perspective of outcome (do patients, like the authors, prefer the "wide-eyed" look), and there are some unanswered questions. Preoperative lower eyelid laxity, which required canthal suspension, thus exclusion from study, was defined as moderate if greater than 6 mm, and mild if less than 6 mm of eyelid distraction was present. In more than 3,000 patient studies in this demographic, only 31 met these criteria. This is hard to believe. There is no mention as to what constitutes no laxity and inclusion into the study. It's interesting that 2,007 patients with an average age of 55 years demonstrated such minimal eyelid distraction (3 mm?, 4 mm?) preoperatively. Also, mild eyelid retraction (scleral show) was not considered a complication as it was an aesthetic (not functional) issue. Lower eyelid blepharoplasty is aesthetic surgery, so is it not a complication? It would be interesting to know what the incidence of lower eyelid retraction would be if "mild" cases were included. I urge our readers to review this article and come to their own conclusions.

Tonnard PL, Verpaele AM, Zeltzer AA. Augmentation blepharoplasty: a review of 500 consecutive patients. *Aesthet Surg J* 2013;33:341–52.

The authors report their results on 500 consecutive patients undergoing what they refer to as "Augmentation Blepharoplasty." This involves fat grafting to the upper lids, lower eyelid/cheek interface, and malar area, with conservative skin excision to the upper and lower eyelids. They advocate that this additive surgery promotes youthfulness and contrast this to what they refer to as "Resection Blepharoplasty" in which tissue excision may iatrogenically promote aging.

Eighty-eight percent of patients studied were woman with an average patient age of 57 years. Three hundred seventy-eight patients (76%) had upper and lower blepharoplasty, 69 (14%) had upper blepharoplasty only, and 53 (10%) had isolated lower eyelid surgery. Roughly, 50% of patients had other associated facial rejuvenation procedures (temple lift, facelift, etc.). The average patient follow-up period was 16 months with 65% of patients followed greater than 1 year. Patient outcomes were evaluated, and study results documented, by surgeon follow up and postoperative photos. No major complications including contour irregularities or asymmetries were noted. The author's fat harvesting, preparation, and injection technique were reviewed. Important points emphasized were : 1) Patient evaluation with old photographs of youth is essential. It is with this reference only that a proper plan can be created; 2) Fat harvesting is with small 1 mm ports on the cannula (for harvesting smaller fat droplets); 3) Fat injection is with a 0.7 to 0.9 mm tip cannula (smaller fat deposition); 4) Upper orbicularis muscle is always preserved (for volume); 5) Only rarely is upper nasal fat excised (12%) of cases; 6) Only the nasal upper eyelid is grafted with fat, lateral grafting can lead to an "apelike" deformity; 7) Lower eyelid fat is never resected; 8) Fat is grafted to the malar area and lower eyelid/cheek junction in combination in 42% of cases; 9) Lower fat repositioning with associated grafting is performed in 58% of cases; 10) A conservative lower skin pinch and canthopexy is added in all cases.

Message: This article brings up many important conceptual points and is a good reference for current thought on eyelid/periorbital fat transfer. An objective measure of evaluation is lacking, and it is hard to believe that no true complications occurred, especially contour issues or asymmetry. The authors state that in the 5 years prior to this study, when they harvested with larger cannulas, their incidence of contour irregularities and "lumps" was 8%. They feel the smaller fat deposits harvested and injected are responsible for the lack of complications. Finally, it seems unusual that in a population with an average age of 57 years, no patient had lower eyelid fat resected and that all patients needed lower eyelid skin excision with canthopexy.

Jacono AA, Ransom ER. Anatomic predictors of unsatisfactory outcomes in surgical rejuvenation of the midface. *JAMA Facial Plast Surg* 2013;15:101–9.

The authors retrospectively analyzed the results of surgery on 150 patients who underwent various procedures aimed at midface rejuvenation over a 4-year period from 2007 to 2010. Procedures performed included autologous fat grafting (21.3%), endoscopic midface lifting (32.7%), implantation of malar implants (2.7%), extended lower blepharoplasty (transcutaneous) with fat transposition (46.7%), and deep-plane rhytidectomy (32%). The authors developed a classification system based on the major factors underlying midfacial aging (identified on preoperative examination) to help develop the surgical plan. The system categorized patients according to volume loss and midface ptosis: class I (mild), class II (moderate), and class III (severe). Subclasses were added for midface skeletal projection: a) normal, b) deficient (vector negative). More than 1 procedure was performed in 34% of patients, and approximately 21% of patients had previous facial rejuvenation surgery. Results were assessed by patient satisfaction and further by masked assessment (from photographs) by an independent expert (facial plastic surgeon) with greater than 15 years of experience, both at 12-month follow up. Ninety-three percent of patients studied were woman with an average age of 51 years. Lower blepharoplasty was extremely successful in improving the lower eyelid/midface interface in the appropriate patient (class I and II). Malar implants (only 4 patients) yielded no patient dissatisfaction. Fat grafting, on its own, yielded a high dissatisfaction rate (33%) and was better suited as an adjunct to other procedures. Isolated midface lifting yielded a 14% dissatisfaction rate, which rose to 25% when added to lower blepharoplasty with fat transposition or fat grafting. The overall patient dissatisfaction rate was 14%, was in concordance with surgeon's and independent expert's assessment, was more common when the patient decided on a different surgical plan than the surgeon's suggestion (38% of these patients), and was most often noted when there was preexistent malar skeletal deficiency (subclass B) and more significant loss of tissue elasticity (class III >> class I and II). Based on the results to this study, the authors developed a treatment algorithm for use in midface aesthetic assessment. The flowchart is presented as Figure 5 in the article.

Message: I commend the authors on this undertaking. There is a tremendous amount of data, and they have done a good job making sense of it. The take home pearls are that appropriate midface rejuvenation requires a detailed preoperative assessment of volume status, tissue elasticity, and skeletal projection. It is important to not stray from the surgeon's suggestions based on these findings as this led to a high incidence of patient dissatisfaction. Surgery is often multimodality in nature. Fat grafting is unpredictable and tends toward better results as an adjunct than primary procedure. Fat preservation in lower blepharoplasty yielded excellent results in the right patient, and midface implants are probably underutilized in surgery. The authors emphasize that dissatisfaction may be more a consequence of premorbid severity of the problem than the procedures themselves. Take some time to review the classification system and flowchart presented. They are helpful.