Avoiding and Managing Complications in the Periorbital Area and Midface

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KEYWORDS

• Periorbital complication • Midface complication • Lid retraction • Ptosis • Dry eye syndrome

KEY POINTS

- Most complications can be prevented by proper preoperative history and physical examination.
- A thorough understanding of the complex periorbital anatomy prevents inadvertent injury to crucial structures.
- Many complications can require conservative management with topical lubrication and waiting the appropriate time before performing any further intervention.
- Severe complications such as visual loss from orbital hemorrhage require prompt identification and treatment.
- Midface surgery is a safe and well-tolerated procedure, with most complications arising from imprecise implant, suture, or endotine placement.

INTRODUCTION

The eyes play a central role in the perception of facial beauty. The goal of periorbital rejuvenation surgery is to restore youthful proportions and focus attention on the eyes. This is validated by the public's interest in blepharoplasty, which is the third most common cosmetic procedure performed today, and for the foreseeable future.[1] Because of the attention placed on the periorbital region, the importance of preventing and managing complications in this area cannot be overstated. Critical to this concept is obtaining a thorough preoperative history and physical examination, which can reduce significantly the incidence of many complications. This article focuses on the preoperative evaluation as it relates to preventable complications, followed by common intraoperative and postoperative complications and their management.

PREOPERATIVE EVALUATION FOR PERIORBITAL AND MIDFACE REJUVENATION SURGERY

After discussing the patient's goals of surgery, obtaining a comprehensive medical and surgical history is critical to preventing complications from periorbital and midface surgery. Patients should provide a detailed list of all prescription and

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nonprescription medications, including topical eye drops. In additional to a general medical history evaluation, special attention should be placed on prior facial surgeries, history or symptoms of coagulopathies, prior anesthesia reactions, and conditions that may alter healing, such as diabetes and immunosuppression. Patients with systemic diseases such as Sjögren syndrome, rheumatoid arthritis, Grave's disease, or neuromuscular diseases should be evaluated appropriately and counseled regarding the increased risks.

Several aspects of the patient's history are specific to preventing complications of periorbital surgery. Keratoconjunctivitis sicca, or dry eye syndrome (DES) is a common condition that has a wide range of etiologies. Patients should be questioned regarding symptoms of dry eyes (redness, soreness, mucoid discharge changes), because blepharoplasty can both result in DES, or exacerbate the condition if present before surgery.[2] Prischmann and colleagues[3] reviewed 892 cases of both lower and upper blepharoplasty and evaluated the results of a dry eye questionnaire that was given to patients before and after their surgery. They found the incidence of DES and chemosis was 26.5% and 26.3%, respectively. Several variables also increased the incidence of both DES and chemosis, including concurrent upper and lower blepharoplasty, transcutaneous approaches, preoperative DES, preoperative skin laxity, male sex, and hormone therapy. They recommended that, in patients with increased risk factors, adjunctive lid tightening procedures should be performed to reduce the risk of this complication.

Korn and colleagues[4] reported on the correlation between laser in situ keratomileusis (LASIK) and blepharoplasty and found that all 6 patients in the study developed DES. Special precautions must be taken in these patients to prevent this complication.

During the preoperative evaluation, it is important to identity patients with Grave's disease. This condition is owing to autoimmune activity against thyroid-stimulating hormone receptors and is associated with orbital disease in 40% of patients.[5] It is characterized by glycosaminoglycan deposition, fibrosis of extraocular muscles, and adipogenesis in the orbit.[6] Patients suspected of having this condition should be evaluated by an appropriate specialist to manage and prevent medical complications. Although blepharoplasty is often required in the surgical management of this disease, there are often multiple stages and varying techniques to address the proptosis and lid retraction that are associated with this condition.[5,7]

A thorough periorbital examination is required before undertaking any operation to properly identify the anatomic structures contributing to the patient's complaints and to recognize features that can increase the risk of postoperative complications. Critical to maximizing outcomes after upper blepharoplasty is preoperative evaluation of the brow. Excessive contraction of the frontalis muscle occurs to compensate for significant upper lid dermatochalasia. If blepharoplasty is performed alone, relaxation of the brow will occur after surgery, which reduces the effectiveness of the operation (**Fig. 1**).[8] To properly identify brow ptosis, evaluate the patient in a relaxed gaze, or manually fixate the brow digitally while assessing for excess skin.

Failure to recognize upper eyelid ptosis results similarly in a dissatisfied patient. Ptosis is defined as a margin-to-reflex-1 distance of 2.5 mm or less. Proper preoperative examination and documentation is critical, because traditional upper blepharoplasty techniques alone does not address this condition adequately. In addition, ptosis is a potential complication of the surgery, and the etiology can be unclear if preoperative documentation omitted this physical examination finding.

Preoperative assessment of the upper eyelid crease is essential for incision planning. Unusually high creases can be a sign of levator dehiscence that, if present, should be addressed at the time of surgery. Lacrimal gland prolapse can masquerade as excessive fat, and injury to this structure can lead to postoperative complications such as DES (**Fig. 2**). The lacrimal gland is located laterally and intraoperatively has a pinkish color. If significant prolapse is present, this can

Fig. 1. Significant brow ptosis and upper lid dermatochalasia. Failure to address both problems will lead with suboptimal cosmetic and functional results. (*From* Massry GG. Managing the lateral canthus in the aesthetic patient. In: Massry GG, Murphy M, Azizzadeh BA, editors. Master techniques in blepharoplasty and periorbital rejuvenation. New York: Springer-USA; 2011. p. 185–98; with permission.)