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Oculofacial Plastic Surgery and the COVID-19 Pandemic: Current Reactions and Implications for the Future

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The unexpected, catastrophic emergence of the novel coronavirus has forced medical specialties the world over to adapt quickly to a new medical reality, and ophthalmology has been no exception. In fact, each subspecialty within ophthalmology has made its own short-term adaptations during the epidemic so as to continue caring for patients while keeping transmission of the virus to a minimum.

As we write this perspective in mid-April 2020, the United States is at or near the peak of the crisis, whereas Italy is approximately 2 weeks past its peak. At this point in the outbreak, our field, oculofacial plastic and orbital surgery, has adjusted to the pandemic in the following ways, with some predicted long-term effects resulting from these changes.

Clinical Evaluation of Patients

Oculofacial and orbital surgery is unique among ophthalmic subspecialties in that a significant portion (and often the great majority) of the patient evaluation can be performed without the use of a slit lamp or ophthalmic lenses. Furthermore, many patients referred to an oculofacial specialist have been fully examined recently by a comprehensive ophthalmologist, rendering the intraocular portion of the examination superfluous. Although no perfect substitute exists for an in-person examination, more than any other ophthalmic subspecialty, oculoplastics is ideally suited for telemedicine.

As clinics have closed, telemedicine has been used effectively during the pandemic to screen many new oculofacial patients for conditions that are emergent and to postpone those patients whose appointments can be delayed safely. Patients with ptosis, dermatochalasis, ectropion, entropion, eyelid retraction, congenital deformities, epiphora, and other conditions that rarely threaten vision can be identified readily with telemedicine. Such prescreening has reduced markedly the number of patients who have needed to be seen urgently without unnecessarily affecting the ultimate prognosis of those whose appointments were rescheduled. Furthermore, the overflow of coronavirus disease-2019 (COVID-19) patients at academic medical centers has restricted the ability of these hospitals to accept transfers that otherwise would have been routine. In response, some patients with orbital disease who normally would be transferred to an academic center for specialized care instead have been evaluated by telemedicine at a peripheral emergency room, had their radiologic imaging viewed through

encrypted videos sent by text, and in conjunction with the local evaluating ophthalmologist, have been effectively managed remotely as an inpatient at the distant site. Patients with nonsurgical subperiosteal abscesses and noninfectious orbital inflammatory disease are among those conditions successfully managed under these circumstances.

Evaluating patients and rendering opinions remotely through this crisis has given oculofacial plastic surgeons the unexpected opportunity to become intimately familiar with the telemedicine platform. In the future, even as clinical volume increases to prepandemic levels, it is conceivable that many patients with routine eyelid malpositions, dermatochalasis, eyelid lesions, and similar conditions can be seen in a dedicated telemedicine session and, under certain limiting conditions, even could be scheduled for surgery directly without a prior office visit. Under certain circumstances, some nonsurgical orbital processes, such as the conditions mentioned previously, could be managed remotely, whereas others could be managed with telemedicine after an initial office visit. For example, after an initial evaluation, a portion of the follow-up medical management of preseptal cellulitis, orbital inflammatory disease, and Graves orbitopathy theoretically could be conducted remotely.

Surgical Management

During the crisis, oculofacial and orbital surgery has mostly been limited to the repair of traumatic injuries and the management of vision- or life-threatening conditions because operating rooms have been in use only for absolute emergencies. Even patients with cancers such as eyelid basal cell carcinomas and small squamous cell carcinomas have had surgery postponed to avoid the risk of severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) transmission.

A risk unique to orbital surgery among the ophthalmic specialties is the danger posed by sinonasal procedures, because the viral load in the upper respiratory tract mucosa of infected individuals is extraordinarily high and poses a serious risk to others, even before the onset of symptoms.^{1,2} Consequently, patients at most institutions undergoing sinonasal procedures have undergone mandatory COVID-19 testing before surgery, and procedures such as dacryocystorhinostomy, orbital decompression, and combined operations with otolaryngologists have been postponed routinely except in the most dire of clinical circumstances.

In some cases, surgery has been undertaken but modified in response to the pandemic. For example, patients with thyroid-related orbitopathy needing urgent orbital decompression to treat optic nerve compression or severe congestion may undergo a single, very aggressive lateral wall orbital decompression as an initial stabilizing procedure, with the intention of returning later to perform additional decompression after the crisis subsides. Such an approach avoids surgically entering a sinus cavity.

Many patients who underwent surgery before the pandemic have been monitored after surgery exclusively by telemedicine. Again, many of the conditions surgically addressed in our specialty are uniquely suited to be followed up remotely, assuming the use of absorbable sutures. Patients who underwent repair of various eyelid malpositions, blepharoplasty, or excisional or incisional biopsies are among those who have been candidates for remote postoperative management.

The fear of SARS-CoV-2 transmission during sinonasal surgery likely will persist for the foreseeable (and perhaps the indefinite) future in the aftermath of the pandemic. Patients undergoing surgery involving respiratory mucosa potentially may require a so-called “green light” test before surgery, be that a polymerase chain reaction test showing negative results or a protective

serum immunoglobulin G level, not only for the COVID-19 virus, but also for any future similar respiratory pathogen. Such testing may even be adopted as a standard preoperative requirement for anyone undergoing intubation.

Having become accustomed to the convenience of remote postoperative management in select cases, ophthalmic surgeons may continue this practice in the post-pandemic future. Doing so may even result in surgeons changing surgical techniques, such as switching to absorbable sutures for these types of cases if they had previously used nonabsorbable sutures. Should such a change occur, then the COVID-19 pandemic will have resulted in a permanent change not only in our approach to patients, but also in our surgical technique.

References

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