The Impact on Non-COVID-19 Otolaryngology Patients During the Pandemic:
Commentary and Insights from Orbital Emergencies

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Since the World Health Organization (WHO) declared a global pandemic on March 11, 2020, the novel coronavirus disease 2019 (COVID-19) has infected over 3.5 million people, including over 830,000 in the United States. In response, hospital systems have implemented extraordinary measures to ensure safe patient care, conserve hospital resources, and limit spread of the virus. These efforts include expansion of COVID-19 testing, cancellation of elective surgeries, closure of ambulatory facilities, implementation of telemedicine, and procurement of adequate proper protective equipment (PPE) for healthcare workers. Likewise, much of the public health messaging has focused on measures necessary to “flatten the curve,” including social distancing and hand hygiene. Together, these efforts have shaped a new COVID-19 medical reality to which physicians have to adapt.

Lost amidst a sea of COVID-19 coverage has been the significant impact that COVID-19-related measures have had on the care of non-COVID-19 patients. This “untold toll,” as referred to in a recent editorial in the New England Journal of Medicine, has impacted all medical specialties. Our treatment of patients at busy tertiary care hospitals in New York during the pandemic—specifically those with urgent orbital conditions—has allowed us to better understand this phenomenon as it pertains to otolaryngology. Specifically, we highlight nuanced changes in the manner that patients are presenting, as well as modifications in clinical management strategies.

One of the greatest challenges we now encounter is how to care for people “who are afraid to seek care.” In line with recent evidence demonstrating fewer admissions for common emergencies such as heart attack and stroke during the pandemic, we have found that fewer patients are presenting to our emergency departments (ED) with urgent otolaryngologic...
complaints. We believe there are two explanations for this phenomenon. First, patients may be reluctant to present to clinical care settings due to concern of COVID-19 exposure. Second, due to the widespread closure of offices and ambulatory settings, patients may find it increasingly difficult to follow-up or obtain proper clinical guidance from physicians. We have treated several patients with orbital pathologies who presented in a delayed fashion for these reasons and who, as a result, allowed non-urgent pathologies to become emergent in nature. This includes a 34-year-old-woman who presented with a large, multiloculated intracanal orbital abscess and fluid collection in the infratemporal fossa four-days following extraction of a maxillary molar. By the time she presented to the ED, she had no light perception vision and increased intraocular pressure to 54mmHg. Despite emergent canthotomy and cantholysis at the bedside and surgical drainage in the operating room (OR), she did not regain vision.

The potential for delayed presentation and advanced pathology belabors the need for hospitals to have a streamlined process by which patients can rapidly move from the ED to the OR. This process must include rapid, reliable COVID-19 testing and strict OR protocols designed to prevent viral transmission for patients with positive, negative or undeterminable viral status. At our institution, we have employed variable PPE requirements for operative team members based on the result of the patient’s COVID-19 testing. Irrespective of test results, for all endonasal or orbital cases, the smallest possible surgical team is used and transit in or out of the OR is prohibited during the entirety of the case.

We have also noticed distinct alterations in management strategies for certain otolaryngologic and orbital conditions during the pandemic—most notably a shift towards medical management.
This is undoubtedly due to concerns that certain operative procedures (i.e. endonasal) presumably carry a high-risk of viral particle aerosolization and viral spread.\textsuperscript{5,6} We have pursued medical treatment for several patients with orbital conditions that normally would be surgically managed. For a 47-year-old-man who presented with a large subperiosteal abscess along the orbital roof secondary to a frontal sinus mucocele (Figure-2), for example, we modified our standard institutional practice and treated with intravenous antibiotics and steroids with the anticipation that surgery could be deferred. This avoided the risks of surgery, including a potentially longer hospital course, insertion of drains into a sinus potentially harboring viral infection, as well as possible viral transmission during the procedure.\textsuperscript{6} This patient did remarkably well, improved consistently on ophthalmologic exams and was discharged on hospital day-two. Although his underlying sinus pathology still must be surgically addressed, his treatment illustrates the option to medically temporize as a risk reduction strategy.

The unique circumstances surrounding COVID-19 may also motivate otolaryngologists to consider novel medical treatments as definitive therapies. In selected patients who have presented with Graves eye disease, for example, we have opted to forgo surgical decompression for medical treatment with teprotumumab, a human monoclonal antibody inhibitor of insulin-like growth factor receptor (IGF-IR).\textsuperscript{7} We recently decided against surgery for a 67-year-old-woman with severe disease (Figure-3) and new-onset compressive optic neuropathy due to her age, comorbidities, and months of preceding high-dose oral prednisone treatment. We felt she was high-risk for COVID-related morbidity and mortality if she contracted the virus either in the OR or during post-operative hospitalization. She was expeditiously started on teprotumumab and, since her first infusion, her exam has improved.
Moving forward, otolaryngologists must adapt to the evolving confines of the pandemic while not allowing vigilance for viral transmission to detract from the care of non-COVID-19 patients. This will ultimately require flexibility in regard to management strategies and recognition of the impacts that public health messaging have on patient presentation. To better understand this underappreciated phenomenon, objective study is needed.
References:


Figures:

Figure 1: CT-scan with IV contrast including (a) axial and (b) coronal cut demonstrating a fluid collection and phlegmon in both the intraconal and extraconal spaces of the right inferior orbit.

Figure 2: CT-scan with IV contrast coronal cuts demonstrating (a) left frontal sinus opacification with a 1.3 x 1.6x 0.5cm subperiosteal abscess along the roof of the left orbit. (b) A small bone defect in the orbital roof can be seen.

Figure 3: CT-scan coronal cut demonstrating diffuse enlargement of all extraocular musculature and bowing of the lamina papyracea bilaterally.
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