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EDITORIAL

What Does Telemedicine Mean for the Care of Patients With Glaucoma in the Age of COVID-19?

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AS PHYSICIANS SEEK TO DECREASE THE RISK OF EXPOsure to COVID-19 by minimizing patient travel and direct contact, ophthalmologists are struggling with how to use telemedicine for glaucoma care most effectively.[1–4] The stakes are high, given that glaucoma remains the leading cause of irreversible blindness globally. The emphasis of glaucoma treatment is based on preventive measures. Unlike telemedicine that focuses on the care of patients with diabetic retinopathy, glaucoma care requires specialized equipment, varies regionally, and depends on provider training.[5]

For nearly four decades, increasingly sophisticated and more accurate assessments of structure and function have improved our decision making for care. Many patients, even those with advanced disease, may be asymptomatic until we initiate topical medical therapy or perform procedures to lower intraocular pressure. The National Eye Institute opined, "Glaucoma is sometimes called the 'silent thief of sight' because it slowly damages the eye and can cause irreparable harm before there is any vision loss."[6] So how can we use telemedicine to access critical data in patients who are not usually bothered by their disease?[7] When offered a video conference appointment, some patients have asked, "If you can't check my pressure or do a visual field, then why should I see you now?" As patients have become knowledgeable about their disease, they want to know not only what we are doing, but why.

Physician and patient communication have and will always be important, whether it's a simple complaint about new drops causing red eyes or a sudden change in vision after a glaucoma procedure. During a recent telehealth visit, a patient with well-controlled glaucoma who had recently undergone cataract surgery by another ophthalmologist asked about his medications. The patient reported that his vision had improved and he had no ocular complaints. He asked if he could resume his topical prostaglandin analog that was discontinued by his cataract surgeon and had been replaced with a topical nonselective beta-blocker. When queried about possible side effects associated with reactive airway disease and general health, he volunteered, "I have bradycardia." He also described decreased exercise tolerance and the inability to raise his pulse rate above 100 as he could before beginning the new drop. An elderly woman imaged her erythematous and intensely pruritic eyelids with sufficient resolution on her smartphone with FaceTime to facilitate diagnosis and treatment of a secondary atopic blepharoconjunctivitis. She avoided a long drive to the clinic and was satisfied with the visit.

Although convenience may be a factor driving high patient satisfaction, the tradeoff may be too high for the most vulnerable patients with a family history of blindness, advanced field loss, or requiring modification of therapy to adequately control intraocular pressure. One of the authors (EJH) who recently returned to in-person practice in Pennsylvania, a state with a declining COVID-19 incidence, noted a much higher than usual proportion of patients who had either stopped their medications and developed progressive glaucomatous optic neuropathy or worsening of visual fields or both in a single day. Detection of these scenarios would not have been likely in a typical telemedicine visit.

An equally important issue to address is how telemedicine would improve accessible, affordable, and equitable health care. Many patients, particularly older Black and brown patients living below the poverty line, do not have internet access or digital platforms for communication with their physicians. Language and cultural attitudes also likely pose other barriers to overcome in minority populations. Will telemedicine just be another tool that inadvertently divides those who already have access to health care from those who do not? Would going to a public place, such as a library, with free internet access really provide a secure and appropriate environment for a doctor-patient conversation?

Until we have valid telemedicine methods to measure intraocular pressures and visual fields that meet HIPAA and federal guidelines for Protected Health Information, ophthalmologists will need to continue interacting face to face with our patients.[7,8] To reduce the frequency of

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contact, Gan and workers described the use of "Digitally Integrated Visits" that separate visits for glaucoma testing performed by technical personnel from interactions with ophthalmologists at the same time. This strategy may provide a pathway to more robust ophthalmic telemedicine.[7]

Technologies may be improving our ability to care for glaucoma patients; however, "laying on of hands" will not likely be replaced by "laying on of digital images" in the immediate future without better tools, better access, and guaranteed benefit for all patients. Our work as physicians must extend to ensuring that innovation improves the availability and validity of remote testing for our patients. Until then, in-person care remains the most reliable option for patients who entrust us with the responsibility of preserving their vision.

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