10/10/2021 9:35AM

The Influence of Universal Face Mask Use on Endophthalmitis Risk After Intravitreal Anti-VEGF Injections During the COVID-19 Pandemic

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OBJECTIVE This study evaluates the impact of physician, ancillary staff, and patient face mask use on rates and outcomes of post-injection endophthalmitis.

PURPOSE Routine use of face masks for patients and physicians during intravitreal anti-vascular endothelial growth factor (VEGF) injections has increased with the emergence of the COVID-19 pandemic. The purpose of this study is to evaluate the impact of physician, ancillary staff, and patient face mask use on rates and outcomes of post-injection endophthalmitis.

METHODS This is a retrospective, multicenter, comparative cohort study of eyes eyes receiving intravitreal anti-VEGF injections from 10/1/2019 to 7/31/2020 at twelve centers from the United States of America. Cases were divided into a “no face mask” group if no face masks were worn by the physician or patient during intravitreal injections or a “universal

face mask" group if face masks were worn by the physician, ancillary staff, and patient during intravitreal injections. The main outcome measures are rate of endophthalmitis, visual acuity, and microbial spectrum.

RESULTS Of 505,968 intravitreal injections administered, 85 of 294,514 (0.0289%; 1 in 3,464 injections) cases of presumed endophthalmitis occurred in the "no face mask" group, and 45 of 211,454 (0.0213%; 1 in 4,699 injections) cases occurred in the "universal face mask" group (odds ratio [OR], 0.74; 95%CI, 0.51–1.18; p=0.097). In the "no face mask" group, there were 27 cases (0.0092%; 1 in 10,908 injections) of culture-positive endophthalmitis compared to 9 cases (0.004%; 1 in 23,494 injections) in the "universal face mask" group (OR, 0.46; 95%CI, 0.22–0.99; p=0.041). Mean logMAR visual acuity at endophthalmitis presentation was 2.04 [~20/2200] for "no face mask" group compared to 1.65 [~20/900] for the "universal face mask" group (p=0.022), although no difference was observed three months after treatment (p=0.764).

CONCLUSION In a large, multicenter, retrospective study, physician and patient face mask use during intravitreal anti-VEGF injections did not alter the risk of presumed acute-onset bacterial endophthalmitis, but there was a reduced rate of culture-positive endophthalmitis. Three months following presentation, there was no difference in visual acuity between the groups.

IRB APPROVAL Yes — *IRB Approval Letter may be requested*.

10/10/2021 9:41AM

Results of One Year of Contact Precautions During COVID-19: Universal Gloving, Masking of Patients and Double Masking of Staff in a Retina Practice

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- Michael Vaughn Emerson, MD
- Jacob M. Jones, MD, PhD
- Yevgeniy Sychev, MD

OBJECTIVE Full contact precautions include univeral glove use, masking of patients, and double masking of staff can prevent the transmission of COVID-19 in a retina surgery practice

PURPOSE At the beginnig of the COVID-19 pandemic, there initially was great controversy about contact precautions and the prevention of viral transmission. The purpose of this report is to describe the effectiveness universal gloving, masking of patients and double masking of staff in a retina surgery practice during the COVID-19 pandemic.

METHODS The computerized billing system was used to generate reports of the total number of patients seen in our retina surgery practice from March 9, 2020 through March 8, 2021. The practice administrator notes were queried for patients who reported testing positive for COVID within one week of an appointment at the practice during the same time frame. The human resource logs were used to generate reports of the daily staff census during the same time frame.

RESULTS There were 47,872 patient encounters during the period of March 9, 2020 through March 8, 2021. There were 3 patients who reported testing positive for COVID 19 within 1 week on an appointment at the practice. Contact tracing by the Minnesota Department of Health did not reveal any source of transmission from the practice. Seven

employees tested positive during the year and all seven individuals had close contact without precautions with other individuals who had COVID 19 outside the practice as the source of viral transmission.

CONCLUSION Universal gloving, masking of patients and double masking of staff was effective at preventing transmission of COVID 19 in a retina surgery practice during a one year period between March 9, 2020 and March 8, 2021.

IRB APPROVAL Not applicable — I responded “No” to previous question regarding human subjects.

10/10/2021 9:45AM

Hybrid Telemedicine for Retina During COVID-19 and Beyond: Initial Experience With 500+ Patients

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- Jaya B Kumar, MD
- Benjamin John Thomas, MD
- Ehsan Rahimy, MD
- John B. Miller, MD

OBJECTIVE Is hybrid telemedicine effective in monitoring patients with complex retinal pathology?

PURPOSE The COVID-19 pandemic has affected retina clinics around the World and depending on the extent of the pandemic, clinics were limited to emergencies/injections and many patients with sight-threatening conditions were afraid to visit clinics. We developed hybrid telemedicine protocols to allow patients with sight threatening conditions to be evaluated in a safe, efficient, and comprehensive manner.

METHODS A retrospective, consecutive series of 568 patients from our initial experience with hybrid telemedicine during the COVID-19 pandemic (April-Nov 2020). All patients were identified by the authors as suitable for hybrid telemedicine. Patients were brought into a non-physician staffed satellite clinic. Two technicians worked up patients, including: VA, IOP, SD-OCT, and UWF imaging. Patient data/imaging was reviewed in real-time or within 24 hours. Audio-visual communication via Zoom was performed with patients in real-time or within 24 hours. The physician obtained additional history, screenshared the images and reviewed the findings, and offered patient-specific education and follow-up.

RESULTS During the height of the COVID-19 pandemic, we successfully evaluated 568 consecutive patients using hybrid telemedicine. Overall satisfaction with this novel method was extremely high with most patients praising the efficiency, timeliness, safety, and the ability to simulate an in-person visit. In addition, we were able to effectively evaluate

patients with a variety of complex retinal pathologies. The most common pathologies included: diabetic retinopathy (17.3%), dry AMD (10.2%), inactive wet AMD (9.3%), macular pucker (9.3%), CME (4.4%), RVO (3.2%), retinal detachment after prior repair (2.3%), choroidal nevus (1.8%), and vitreomacular traction (1.6%).

CONCLUSION Hybrid telemedicine offers a safe and efficient way to monitor patients with complex retinal pathologies during COVID-19. These visits simulate an in-person visit and to date, we continue to utilize these protocols for our patients.

IRB APPROVAL Yes — *IRB Approval Letter may be requested*.

10/10/2021 9:56AM

Short-term Effects of COVID-19-Related Deferral of Intravitreal Injection Visits

- William E. Smiddy, MD
- Noy Ashkenazy, MD, MS
- Lediana Goduni, MD

OBJECTIVE What was the frequency and impact to patients delaying followup care for their intravitreal injection-based therapy during COVID-19 restrictions.

PURPOSE To determine secondary effects and associations with patients who delayed care for injection-based therapy (designated by ASRS and AAO as urgent) during COVID-19 restrictions

METHODS A cross-sectional, retrospective study of a single-provider outpatient clinic across multiple satellite offices involving consecutive patients returning for intravitreal injections (IVIs) were identified as delayed or undelayed during a six-week study interval during the COVID-19 pandemic that closely followed a period of mandated prohibition of elective encounters. The delay was defined when the intended followup interval was exceeded by 33%. Controls from the previous calendar year were identifies. Outcome measures included best corrected visual acuity (BCVA) and optical coherence tomographic (OCT)evidence of change.

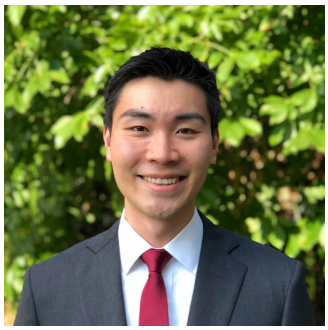
RESULTS 183 eyes of 144 patients were seen in the 6 week study period, compared to 193 eyes of 154 patients the previous year. The proportion of those visits that represented delayed returns were 32% versus 15%; thus, the COVID-19 attributable delay rate was 17%. Delayed eyes had a greateer decline in BCVA (3 letters), higher rates of worsened OCT results (48%), and were subsequently switched to more frequent treatment intervals ($p<.02$). Reasons given for the delay included presumption that their care was mandated to be delayed, patient fear of venturing out to the eye clinic, and other.

CONCLUSION The unintended consequence of delayed care of patients on established IVI-based care regimens was substantial and had moderately negative visual impact. Regimens that are dependent upon regular followup visits are vulnerable to disruptions. Special care to optimizing messaging should be considered if future restrictions are necessary.

IRB APPROVAL Yes — *IRB Approval Letter may be requested*.

10/10/2021 10:04AM

Quality of Life and Retinal Disease During the COVID-19 Pandemic



- Peter Y Zhao, MD
- Aaron Tippett Lindeke-Myers, BA
- Benjamin I Meyer, BS
- Elaine Liu
- David Levine, MD
- Olivia Bennett
- Sunjong Ji
- Paula Anne Newman-Casey
- Nieraj Jain, MD
- Rajesh C. Rao, MD

OBJECTIVE To investigate interactions between quality of life, demographics, and clinical characteristics in patients with AMD and DR during the COVID-19 pandemic.

PURPOSE Ophthalmic continuity of care has been impacted by the COVID-19 pandemic. Time trade-off (TTO) utility scores have been previously used to determine the decrease in quality of life associated with retinal disease. Examining the interactions between patient characteristics, TTO scores, and continuity of care may help inform future approaches to patient-centered vision care.

METHODS We conducted a survey at Emory Eye Center in Georgia and Kellogg Eye Center in Michigan. The study included patients with a diagnosis of exudative age-related macular degeneration (AMD) or diabetic retinopathy (DR) who received an intravitreal injection (IVI) between January and March 2020 and were scheduled for repeat IVI between March and May 2020. The survey included questions on demographics and degree of concern for retinal disease and risk of SARS-CoV-2 exposure, as well as a question for TTO utility assessment. Additional clinical data were abstracted from medical records. Multiple linear regression and logistic regression were used to model associations.

RESULTS 322 patients (mean [SD] age, 75 [12] years; 181 women [56%]) completed the survey. 226 [70%] had AMD and 96 [30%] had DR. Mean [SD] visual acuity (VA) was logMAR 0.58 [0.66]. Mean [SD] IVI interval was 6.8 [2.6] weeks. 74 [23%] had a ≥ 2 week lapse in care, defined as lost to follow-up (LTFU). Mean [SD] TTO score was 0.82 [0.27].

Lower TTO score (increased willingness to trade) was associated with worse VA in the better-seeing eye (-0.14, SE=0.04, P<.01) and having AMD versus DR (-0.10, SE=0.05, P=.04). Survey responses associated with increased odds [95%CI] of LTFU were higher TTO score (decreased willingness to trade) (4.5 [1.3–15.8], P=.02), living alone (1.9 [1.0–3.8], P=.04), fair/poor health status (2.0 [1.0–4.1], P=.04), and feeling extremely likely/likely to be exposed to COVID-19 in the eye clinic (5.6 [2.4–12.8], P<.01). Survey responses associated with decreased odds of LTFU were living independently (0.26 [0.1–0.7], P<.01) and high education level (0.47 [0.3–0.9], P=.02).

CONCLUSION The study demonstrated that many patients are concerned about vision loss from loss to follow-up for treatment of retinal disease, but that some patients may be equally or more concerned about risk from exposure to COVID-19 during the pandemic. Each patient values vision differently, underscoring the importance of an individualized approach to minimizing interruptions in ophthalmic care.

IRB APPROVAL Yes — *IRB Approval Letter may be requested*.