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This information is current as of March 11, 2024.
We thank Marquez et al for their interest in our study.1 Their points are worthy of a discussion. Our article demonstrates a highly sensitive and specific biomarker, namely apical ground-glass opacification (GGO) seen on carotid CTA, in a cohort of patients with suspected stroke during the pandemic (sensitivity, 75% [95% CI, 56–87%]; specificity, 81% [95% CI, 71–88%]; OR = 11.65 [95% CI, 4.14–32.78]; \( P = .001 \)). The sample was accrued continuously from March through April 2020 from a population scanned for the indication of suspected acute stroke, not for suspected coronavirus disease 2019 (COVID-19). This study simply highlights the importance of vigilance in assessment of the lung apices when reporting carotid CTAs in the population with suspected acute stroke. Most patients in our study were without typical symptoms of COVID-19. We used other information readily available at the time of the carotid CTA acquisition; however, we highlight that guidance from both the Royal College of Radiologists (UK) and the American College of Radiology do not recommend routine chest CT scanning as a standard (RT-PCR), which itself is not of optimal sensitivity.5

Regarding the suggestion to include comorbidities and risk factors for stroke, we refer the authors to Online Table 4. Here it shows that key stroke risk factors were included in our study (hypertension, diabetes mellitus, atrial fibrillation, hyperlipidemia, history of stroke/TIA, and smoking status) and were incorporated as covariates in the bivariate and multivariate analyses.

Our primary objective was to determine candidate diagnostic biomarkers for COVID-19, but we agree there were some interesting additional findings from our study regarding the association between SARS-CoV-2 infection and stroke. For example, a contributory mechanism to COVID-19-related excess mortality might be thromboembolic because increased carotid occlusion was associated with GGO (16.0% versus 3.4%, \( P = .004 \); OR = 6.82 [95% CI, 1.97–23.53]; \( P = .002 \)), and our multivariate analysis suggested carotid occlusion was likely to be an independent predictor of death.

While this study was based in London, United Kingdom, and included 3 hospitals with a nonwhite population ranging from 10% to 40%, with patients from a variety of socioeconomic status in the catchment area, we believe the biomarker would benefit from further rigorous temporal and spatial validation. In other words, having developed the biomarker, we should now test it on a cohort of patients from hospitals throughout an entire nation with prospective data collection at a subsequent time point in the pandemic. Such a study to obtain highly representative samples of the populations with acute stroke during the COVID-19 pandemic is currently underway.5

**REFERENCES**


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