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Media Contacts:
Renee Tessman, rtessman@aan.com, (612) 928-6137
M.A. Rosko, mrosko@aan.com, (612) 928-6169

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Abstract Title: Persistent Chemosensory Dysfunction Associated with COVID-19 Infection in a Cohort of over 800 Healthcare Workers

Press Release Title: Loss of Sense of Smell and Taste May Last up to 5 Months After COVID-19

Authors: Nicholas Bussiere[1], Jie Mei[1], Mathieu Blais[2], Francois Gros-Louis[3], Gaston De Serres[4], Nicolas Dupre[2], Johannes Frasnelli[1]

[1]Department of Anatomy, UQTR, [2]CHU de Quebec - U Laval, [3]Department of Surgery, ULaval, [4]INSPQ

Objective: To evaluate COVID-19-related persistent chemosensory dysfunction (CD) in a cohort of Quebec healthcare workers.

Background: CD is now recognized as a major symptom of COVID-19. While published studies have investigated and quantified persistent CD in up to 20% of patients, very few have examined the duration, severity and trajectory of chemosensory impairments in patients with persisting CD.

Design/Methods: We conducted a cross-sectional observational study in a cohort of over 800 healthcare workers who received a positive diagnosis for SARS-CoV-2 with a nasopharyngeal viral swab, recruited through the Quebec National Institute of Public Health, 4 months after diagnosis. We used an online 64-item questionnaire examining self-evaluated olfactory, gustatory and trigeminal impairments as well as clinical and epidemiological consequences of the infection which includes a previously validated CD-home test (CD-HT). As part of the questionnaire, both smell and taste were evaluated on a scale from 0 to 10 (0: no perception; 10: very strong perception).

Results: 813 respondents (women: 84.1%) answered the questionnaire on average 150.1 (SD: 31.1) days post-diagnosis. Average self-reported smell ratings were 8.98 (1.62) pre-infection, 2.85 (3.74) during the acute phase and 7.41 (2.46) when the respondents answered the questionnaire. These numbers were 9.20 (1.34), 3.59 (3.67), and 8.05 (2.20) for taste. In 580 respondents who indicated a compromised sense of smell during the acute phase, average smell rating at the time they answered the questionnaire was 6.89 (2.52) compared to 9.03 (1.61) before the infection. 297 (51,2%) of them reported not regaining olfactory functions at the time of testing; when assessed with the CD-HT, 134 of 810 respondents (18.4%) have persistent loss of smell. No significant sex differences were observed in acute or persistent smell loss.

Conclusions: CD persists in a significant number of COVID-19 patients. Long-term follow-up and in-laboratory chemosensory examinations are required to assess the extent of the associated impairments.

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