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Letter to Editor

LETTER TO EDITOR

Implications of underrecognition of smell and taste as a symptom of COVID-19 infection

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The index of suspicion for COVID-19, on which testing for COVID-19 (the strategy recommended by the authors)[1] depends, ultimately hinges on an understanding of what constitutes 'symptomatic' status vs. what constitutes 'asymptomatic' status in COVID-19 infection.

Symptomatic vs. asymptomatic in the context of the reverse transcriptase polymerase chain reaction test

There is no agreed complete list of symptoms to which we can refer before defining who is symptomatic and who is not. Some lists include loss of taste or loss of smell;[2] others do not.[3,4] Furthermore, anosmia has suboptimal specificity for COVID-19 infection.[2] Accordingly, taken in isolation, there is a danger that anosmia might be dismissed as a symptom of a viral infection other than COVID-19.

When anosmia is included in the list of symptoms, and symptomatic subjects are evaluated both by reverse transcriptase polymerase chain reaction (RT-PCR) and the antibody test, as many as 41.9% of those who test negative by RT-PCR subsequently test positive by the antibody test,[5] thereby implying a high false negative rate for RT-PCR.[5] In the latter study, characterization of symptomatic status included documentation of anosmia.[5]

A diagnostic trap which arises from underrecognition of anosmia, when it occurs in isolation, is that subjects who are erroneously perceived to be asymptomatic when they present with anosmia as a 'stand-alone' symptom may also test negative on the RT-PCR test in spite of the presence of COVID-19 infection.[5] In that context, they might become unrecognized asymptomatic spreaders,[6] undocumented and, therefore, unchecked.

Notable examples of the occurrence of anosmia as an isolated symptom of COVID-19 (so-called 'stand-alone anosmia') include a woman in her sixties, who was a contact of a proven case of COVID-19 infection. She developed anosmia as the only symptom of COVID-19 infection. She did not have fever, sore throat, cough or shortness of breath. Nevertheless, she tested positive for SARS-CoV-2-RNA. The 'stand-alone' anosmia lasted for 16 days and was not followed by any other symptoms of COVID-19.[7] In a study of 23 RT-PCR-positive subjects with anosmia, 16 cases had anosmia as a 'stand-alone' symptom.[8]

Time course, RT-PCR status and radiographic correlates of asymptomatic cases

Hu *et al.*[9] published 'characteristics of 24 asymptomatic infections of COVID-19' without specifying the criteria for asymptomatic status. All 24 were contacts of proven cases of COVID-19 infection. All were monitored in hospital for periods of 5–21 days. Five of the 24 proved to be of the presymptomatic subtype because they subsequently developed symptoms which included fatigue, fever, cough, nasal congestion, dizziness, arthralgia, diarrhoea, rashes and cough. The other 19 remained asymptomatic throughout. Twenty-two had computed tomography (CT) stigmata consistent with COVID-19 infection. Five had negative RT-PCR tests (three or more tests in each individual) in spite of the presence of CT stigmata consistent with COVID-19 infection. In three of those asymptomatic cases with negative RT-PCR status, the CT stigmata were deemed to be typical of COVID-19 infection.[9]

Comment

Given the fact that, in the UK, as many as 64.76% of 6452 subjects who had tested positive for SARS-CoV-2 were identified as having loss of smell and taste (the corresponding statistic in the USA amounting to 67.49% of 726 subjects)[2] there is huge potential for underrecognition of COVID-19 infection among patients

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who have 'stand-alone' anosmia. Some of those cases of missed diagnosis cases might have unrecognized COVID-19 pneumonia, the latter a potential reservoir of COVID-19 pathogens even in the absence of a positive RT-PCR test.

Finally, the emergency of a new strain of COVID-19 infection,[10] capable of spreading more rapidly, mandates greater vigilance for atypical 'stand-alone' symptoms of COVID-19 infection which might otherwise slip 'under the radar'.

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