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ORAL SURGERY

LETTER TO THE EDITOR

Two sides of the same coin in COVID-19: Dental aerosol and medical aerosol

To the Editor:

COVID-19 continues to be at the cusp of its transmission with bouts of second and third waves, and the pandemic is yet far from over. Data on medical aerosols in the literature are more robust unlike the limited data reported on the absolute risk of COVID-19 amongst dentist providers. It is precarious to assume that dental care using protective shields involves limited exposure to the virus.[1] A previous study[2] on the mortality risk of 278 physicians revealed that 6% were dentists; thus, the burden imposed by COVID-19 on health workers is overwhelming and undeniable and should not be underestimated.

Dental procedures are performed in the oral cavity that is continuously bathed by secreted saliva. The salivary gland is a potential reservoir of SARS-CoV-2 infection, with viral RNA traced from the saliva of infected individuals, most of them asymptomatic.[3] Infected saliva, despite being sucked out by high volume suction, can be potentially contagious when manipulated using a high-speed drill that facilitates its ubiquitous dispersion across the closed operatory room. Rubber dams offer a fully protective shield[4] but cannot be routinely used in all oral surgical procedures.

The aerosol dynamics, the potential viral load of aerosol, the exhaled breath of asymptomatic individuals and the splatter created are yet to be ascertained, nor is one certain about the dilution effect produced by the coolants used. Medical aerosols from endotracheal intubation agitate the airway, compelling the patient to cough forcibly, while micro-dental aerosols can seep into the airways or settle on surfaces as fomites. The duration of fallow time post-aerosol generating procedures has also not been universally established due to concerns about a limited evidence base. The effect of mitigating measures such as suction, preprocedural mouth rinse and open ventilation is not well understood or explored.[4,5] The limitations of proving COVID-19 cases of dental origin are partially related to the methods of virus recovery from air and surfaces in dental offices. Other important aspects are the oral health status, since sites of periodontal disease may harbour different viruses, including SARS-CoV-2, as well as the type of procedures performed (e.g., invasive, long duration and instruments/equipment used). The presence of SARS-CoV-2 in periodontal tissue significantly explains the possibility that the oral cavity actively participates in the transmission of SARS-CoV-2.[3] This is not a simple equation, and the potential of dental aerosols as high-risk factors should not be neglected.

CONFLICT OF INTEREST

The authors do not have any conflict of interest.

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