SARS-CoV-2 transmission via endoscopy in the COVID-19 era

We have read with interest the latest paper by Boškoski *et al*[1] on the virological status of reprocessed endoscopes used for critically ill patients during the COVID-19 pandemic.

Proper reprocessing of endoscopes and accessories is essential to patient safety. Although existing data suggest that the risk of viral transmission via endoscopic equipment is extremely low (with virtually no reported cases of hepatitis B and C or HIV transmission following current disinfection guidelines[2]), the present COVID-19 pandemic has put a spotlight on quality control as a guarantor of patient and healthcare worker safety.

Boškoski *et al* report no evidence of viral contamination of endoscopes in critically ill patients undergoing upper and lower GI endoscopy as well as biliopancreatic procedures (endoscopic ultrasound and endoscopic retrograde cholangiopancreatography). This is in accordance with previous studies suggesting that the risk of fomite transmission of SARS-CoV-2, although plausible,[3] remains low.[4] Endoscopy is regarded as a moderate to

high-risk procedure[5] due to aerosolisation and contact with infected bodily fluids (sputum, faecal matter and even bile[6]), but linking transmission of SARS-CoV-2 to a previous endoscopic procedure is difficult, considering the large variation in both the incubation and viraemic periods.

The authors did not account for the timing of endoscopy in relation to the moment of infection and/or admission. As shown by recent studies, viral load in patients with COVID-19 decreases substantially over a short period of time,[7] so even patients in critical condition might, in fact, have low viral loads when admitted to the endoscopy ward. Moreover, there is evidence that supports a rapid decline in infectivity after several days,[8] independent of viral load,[9] possibly justifying the lack of infectious isolates from the collected samples. In our own experience, there have been significant delays in access to endoscopy for patients with COVID-19 (data currently under review for publication), and this might, at least in part, account for the results of Boškoski *et al*. The findings of the study are reassuring, and we would like to point out that, even positive PCR findings would still not be enough to confirm infectivity since viral viability should be demonstrated by means of culture rather than PCR.

Due to the significant impact of the SARS-CoV-2 on patient care, in-depth studies to establish clear correlations between viral load, infectivity and transmission risks are required to provide definitive answers in this matter.

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