

## SARS-Cov-2 in peritoneal fluid: an important finding in the Covid-19 pandemic

### Editor

We read with great interest the paper by Mowbray *et al.*<sup>1</sup> about the risk of spreading the virus SARS-Cov-2 during surgical procedures; the spread of novel coronavirus SARS-CoV-2 (COVID-19) started in China in December 2019 and has now extended all over the world; the World Health Organization recognized it as a pandemic on 11 March, 2020<sup>2</sup>. So, health systems all over the world have reorganized their activities, including surgical ones. The scheduling methods of elective surgical procedures as well as the patient's treatment modalities during hospitalization, in the preparatory stages of the surgery and the correct behaviour in the operating room have been critically reviewed with particular attention to the use of personal protective equipment (PPE) and methods to reduce the spread of the virus. Surgery services around the world raised concerns about the best surgical approach to take also in consideration of the possibility of diffusion for COVID-19 in CO<sub>2</sub> aerosol created during minimally-invasive procedures<sup>3</sup>.

Evidence of COVID-19 transmission through abdominal surgery is lacking and to our knowledge no study to date has shown the presence of virus SARS-CoV-2 in the intraperitoneal location.

We present the case of a 71-year-old woman hospitalized for Covid-19 pneumonia, with suggestive chest CT scan and positive oropharyngeal swab for SARS-CoV-2, presented multiple episodes of intestinal bleeding resulting in hypotension and the need for multiple transfusions; the patient underwent a colonoscopy which showed a very severe inflammation associated with

pseudopolyps, ulcerations and diffuse bleeding; subsequently she developed haemorrhagic shock with anaemia (Hb 5 g/L) and the patient underwent surgery; a subtotal colectomy with terminal ileostomy was performed and a swab for SARS-CoV-2 was made on the abdominal fluid.

The swab for SARS-CoV-2 was found to be positive; after a brief improvement in the general clinical condition, the patient progressively deteriorated until her death on the seventh postoperative day.


This is the first study, to our knowledge, in which the presence of the SARS-Cov-2 virus is demonstrated within the abdominal cavity; other authors have performed studies on peritoneal fluid in COVID-19 positive patients, but without finding the presence of the virus<sup>4</sup>. If this result will be confirmed by studies with greater statistical strength, many practical consequences will follow, including raising the threshold of attention during surgical procedures and in the planning phase<sup>5</sup>; in particular, with regard to suspect patients, even in the presence of a negative oropharyngeal swab, we recommend the use of the necessary PPE and all security measures, given the low sensitivity of the screening methods currently in use.

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### Disclosure

The authors declare no conflict of interest.

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