

UEG Position Paper

COVID-19 and Digestive Health: Implications for prevention, care and the use of COVID-19 vaccines in vulnerable patients

Summary

Digestive healthcare is one of the medical disciplines strongly impacted by the SARS-CoV-2 outbreak and the implemented restrictions (1). Endoscopy has been one of the most affected procedures, leading to a dramatic decrease of screening and surveillance procedures. On the other hand, lockdowns and social distancing have been associated with unhealthy eating habits, decreased physical exercise and alcohol consumption (2).

The COVID-19 vaccination process is currently of great importance. With GI patients being vulnerable to increased morbidity and worse outcomes from the SARS-CoV-2 infection, strategies to better protect the health of patients with impaired immunity must be a priority.

This position paper serves to inform policy makers, patients, healthcare professionals and the general public of the latest evidence on the impacts of the SARS-CoV-2 pandemic on digestive health. In the same vein, it aims to improve understanding of the clinical considerations on the use of COVID-19 vaccines in patients with chronic digestive conditions and to present UEG's latest recommendations to support evidence-informed decision making.*

UEG's main messages

- **Healthcare delivery/organisation**

When adapting or easing measures, national governments should take into account the latest clinical data to inform policies and guidelines and ensure citizens' protection and support.

Resumption and maintenance of endoscopic activity is crucial for screening programs, mortality and prognosis of digestive disorders. Elective procedures performance must be balanced with the need to protect healthcare and patients.

More data are needed to better assess the short and long-term effects of lockdowns on cancer screening, diagnosis and staging across Europe.

- **COVID-19 vaccination**

The variability in national vaccination schemes, epidemiological settings and vaccine coverage rates should not affect the prioritisation of immunocompromised patient groups.

The introduction of booster doses should be evidence-based. Antibody titer determination after vaccination in vulnerable populations such as patients with IBD under immunosuppressive treatment, patients with digestive malignancies under

* All the information is based on evidence available at the time of publication (19.10. 2021)

treatment as well as transplant recipients is needed along with further research to determine the optimal titer cut-off.

- **EU health capacity**

We support the European Commission's goal of [building a European Health Union](#) and affirm the need to reinforce the mandates of the European Centre for Disease Control and Prevention (ECDC) and the European Medicines Agency (EMA) to facilitate a strong and coordinated Union-level response to health crises.

The revision of the ECDC mandate should not miss the opportunity of broadening the agency's mandate to include activities in the area of noncommunicable diseases. This is particularly important considering the interlinks between communicable and noncommunicable diseases amplified by the SARS-CoV-2 pandemic.

Implications of the COVID-19 pandemic for digestive health and care

The COVID-19 crisis and social lockdown measures to limit virus transmission are likely to have had considerable social consequences beyond the direct death toll attributable to COVID-19 (3).

Colorectal cancer screening delays

Since the rollout of screening programmes, which now cover over 110 million EU citizens, Europe has observed a steady decline in CRC mortality rates. With endoscopy being largely used for screening, early diagnosis, and treatment of digestive tract cancers, there is a growing concern about a possible mid or long-term increase in the GI cancer burden because of the many elective GI (gastrointestinal) endoscopy procedures that were cancelled (4).

Delays up to 4-6 months do seem to significantly reduce the performance of screening, however a lockdown sustained for longer time frames would negatively affect mortality rates (5). It has been indicated that a backlog sustained beyond 6 months would unequivocally ensue in a significant excess of advanced stages detected through screening and thus in up-staging rather than down-staging, thus increasing disease burden and human and economic costs. Furthermore, for delays beyond 12 months, the increase of advanced stages would lead to a 12% increase of mortality rate at 5 years.

Increased obesity rates, adoption of unhealthy diet and sedentary lifestyle

It is estimated that the COVID-19 crisis had a substantial impact on weight-related behaviours, including healthy eating and physical activity (6). The lockdowns have led to weight gain, due to lower exercise, boredom/anxiety/depression enhanced eating, characterized by consumption of snacks, unhealthy foods and sweets (7).

Recent data across European countries shows increase in the consumption of products with lower nutritional values, decrease in the level of physical activity and weight gain (8,9). This worsening of lifestyle habits may increase the risk of both chronic and communicable diseases since nutritional status influences immunity.

In the UK Biobank, the risk of COVID-19 positivity was lower when consuming vegetables and higher when consuming processed meats (10).

There are a multitude of digestive and liver diseases that are associated with overweight and obesity. For example, almost 75% of obese individuals have a fatty liver (11), thus the COVID-19 pandemic may have potentially increased the prevalence of non-alcoholic fatty liver disease.

Vaccination of GI patients

As Europe is racing to get its citizens vaccinated against COVID-19, the conditions in which patients with IBD, liver disease, digestive cancer and liver transplant recipients shall be managed must be clarified. To that effect, digestive healthcare practitioners are among the main sources of information on SARS-CoV-2 vaccination for vulnerable GI patient groups.

Oncological patients

Although evidence regarding vaccination in patients with cancer is limited, there is enough evidence to support anti-infective vaccination in general, as recommended by several oncology professional societies (12). Recent data (13,14) shows that cancer patients receiving chemotherapy and/or immunotherapy will achieve an adequate antibody response to COVID-19 vaccination. Nevertheless, the efficacy of the vaccination should be further evaluated as the evidence is currently particularly scarce on the duration of the immune response.

Patients with IBD

To date, all approved COVID-19 vaccines are considered to be safe in immunocompromised patients. Whether mRNA vaccines might pose any additional risk of immunopathology in immunosuppressed IBD patients is still a matter of discussion. Whilst there are many unknowns in vaccination efficacy in those on immunosuppressive therapy, the risk of contracting COVID-19 in this population is known to be significant. As a consequence and although there are still many unanswered questions, vaccination in all IBD-patients as early as possible is encouraged, and preferably with mRNA-vaccines as their efficacy to protect against mild and severe disease was shown to be higher (15,16).

Patients with liver disease and liver transplant recipients

No significant side effects or safety signals have been reported in patients with liver disease, nor is there evidence of graft rejection or other safety issues in liver transplant recipients who received the BioNTec/Pfizer vaccine (17).

There are very few studies evaluating the efficacy of COVID-19 vaccine in these patients. There is, however, data on patients with NAFLD which shows that neutralizing antibodies against SARS-CoV-2 were detected in a large number of cases. The existing evidence on the efficacy of COVID-19 in liver transplant patients shows antibody-responses range between 47.5% (18) and 81% (19). The French Society of Gastroenterology has recently proposed a third dose of vaccine in liver transplant recipients. A 4-week interval between the second and third dose of the BioNTec/Pfizer and Moderna vaccines was suggested (20).

References

1. Konturek PC, Harsch IA, Neurath MF, Zopf Y. COVID-19 - more than respiratory disease: a gastroenterologist's perspective. *J Physiol Pharmacol*. 2020 Apr;71(2). doi: 10.26402/jpp.2020.2.02. Epub 2020 Jul 2. PMID: 32633236.
2. Magro et al. COVID-19 in gastroenterology: Where are we now? Current evidence on the impact of COVID-19 in gastroenterology. *UEG Journal*; (Jun 30, 2021). DOI:10.1002/ueg2.12115.
3. Brooks S.K., Webster R.K., Smith L.E., Woodland L., Wessely S., Greenberg N. The psychological impact of quarantine and how to reduce it: Rapid review of the evidence. *The Lancet*. 2020 doi: 10.1016/S0140-6736(20)30460-8.
4. Gralnek IM, Hassan C, Beilenhoff U, et al. ESGE and ESGENA Position Statement on gastrointestinal endoscopy and COVID-19: An update on guidance during the post-lockdown phase and selected results from a membership survey. *Endoscopy*. 2020;52(10):891-898. doi:10.1055/a-1213-5761.
5. Ricciardiello L, Ferrari C, Cameletti M, Gaianelli F, Butti F, Bazzoli F, Luigi de'Angelis G, Malesci A, Laghi L. Impact of SARS-CoV-2 Pandemic on Colorectal Cancer Screening Delay: Effect on Stage Shift and Increased Mortality. *Clin Gastroenterol Hepatol*. 2021 Jul;19(7):1410-1417.e9. doi: 10.1016/j.cgh.2020.09.008.
6. Naja F, Hamadeh R. Nutrition amid the COVID-19 pandemic: a multi-level framework for action. *Eur J Clin Nutr*. 2020;74(8):1117-1121. doi:10.1038/s41430-020-0634-3.
7. Pellegrini M, Ponzio V, Rosato R, Scumaci E, Goitre I, Benso A, Belcastro S, et al. Changes in Weight and Nutritional Habits in Adults with Obesity during the "Lockdown" Period Caused by the COVID-19 Virus Emergency. *Nutrients* 2020;12.
8. Górska, P.; Górna, I.; Miechowicz, I.; Przysławski, J. Changes in Eating Behaviour during SARS-CoV-2 Pandemic among the Inhabitants of Five European Countries. *Foods* 2021, 10, 1624. <https://doi.org/10.3390/foods10071624>.
9. Shanmugam, Harshitha et al. "Multiplying effects of COVID-19 lockdown on metabolic risk and fatty liver." *European journal of clinical investigation* vol. 51,7 (2021): e13597. doi:10.1111/eci.13597.
10. Vu, T.-H.T.; Rydland, K.J.; Achenbach, C.J.; Van Horn, L.; Cornelis, M.C. Dietary Behaviors and Incident COVID-19 in the UK Biobank. *Nutrients* 2021, 13, 2114. <https://doi.org/10.3390/nu13062114>.
11. UEG Press Release: World Digestive Health Day 2021: The European Obesity Crisis: <https://ueg.eu/a/275>
12. van der Veldt, A.A.M., Oosting, S.F., Dingemans, A.M.C. et al. COVID-19 vaccination: the VOICE for patients with cancer. *Nat Med* 27, 568–569 (2021). <https://doi.org/10.1038/s41591-021-01240-w>.
13. <https://oncologypro.esmo.org/oncology-news/daily-news/voice-sars-cov-2-vaccination-effective-during-solid-tumour-treatment>
14. <https://www.esmo.org/newsroom/press-office/the-evidence-is-in-covid-vaccines-do-protect-patients-with-cancer>
15. J Wellens, JF Colombel, J.Satsangi S.Wong SARS-CoV-2 vaccination in IBD : Past lessons, current evidence and future challenges *Journal of Crohn's and Colitis*, 2021, 8 : 1376-1386.
16. C.Siegel, G Mehmed, D McGovern et al; IOIBD SARS-CoV-2 vaccination for patients with inflammatory bowel diseases : recommendations from an international consensus meeting *GUT*, 2021, 70 : 635-640.
17. Rabinowich L, Grupper A, Baruch R, et al. Low immunogenicity to SARS-CoV-2 vaccination among liver transplant recipients. *J Hepatol* 2021.
18. Rabinowich L, Grupper A, Baruch R, et al. Low immunogenicity to SARS-CoV-2 vaccination among liver transplant recipients. *J Hepatol*. 2021;75(2):435-438. doi:10.1016/j.jhep.2021.04.020.
19. Strauss et al. Antibody Response to Severe Acute Respiratory Syndrome-Coronavirus-2 Messenger RNA Vaccines in Liver Transplant Recipients. *Liver Transpl*. 2021;10.1002/lt.26273. doi:10.1002/lt.26273.
20. Société Nationale Française de Gastro-Entérologie, Groupe d'Etude Thérapeutique des Affections Inflammatoires du Tube Digestif, d'Hépatologie. FFdCDSF. Recommandations de la SNFGE, du GETAID, de la FFCD et de l'AFEF pour la vaccination contre le SARS-CoV-2 des patients atteints de maladies chroniques de l'appareil digestif. 2021.