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## Risk of COVID-19 in celiac disease patients



## ARTICLE INFO

## Keywords:

SARS-CoV-2

COVID-19

Celiac disease

Infection

## Dear Editor

We read with interest the article by Emmi et al. [1]. In this article, the authors reported that systemic autoimmune diseases do not seem to carry an increased risk of SARS-CoV-2 infection as compared to the general population. Since celiac disease (CeD), an autoimmune multi-organ disease affecting the small bowel in genetically predisposed subjects [2], has been associated with a higher risk of infections, including influenza [3] and pneumonia [4,5] we decided to investigate whether adult patients with CeD have an increased risk of COVID-19, in order to assess the need to implement special algorithms for their hospital admission, as well as for endoscopic and clinical evaluation.

During quarantine, the personnel of our CeD centre advised patients to postpone any non-urgent outpatient visit and invited them to opt for a remote healthcare consultation instead, providing laboratory exam results in advance by email. Endoscopic examinations aimed at diagnosis and follow-up were postponed indefinitely, when possible.

Between the 9th and the 11th of April, we contacted all CeD patients regularly followed-up at the University Hospital of Padua (Veneto, Italy) and included in our CeD registry (approved by the research ethics committee of the Azienda Ospedaliera di Padova under the protocol 4680/AO/19) and on a gluten free diet from at least six months. Patients were asked if they have been infected with COVID-19; if they have been in contact with someone (friends or family components) infected by COVID-19; if they were experiencing flu-like symptoms suspected for COVID-19 infection and finally if they had undergone naso-pharyngeal swabs for SARS-CoV-2.

Among the 171 patients included in our registry and on gluten free diet from at least six months, we contacted 138 CeD subjects (80.7%), aged 41.3 years old (SD 14.9), 73.9% were females on a gluten-free diet from a mean of 6.6 years (SD 6.0). Two patients had a diagnosis of refractory celiac disease type one and one of refractory celiac disease type 2. Among them, none reported to have been diagnosed with COVID-19, whereas 19 CeD patients experienced flu-like symptoms with 1 of them having undergone a negative naso-pharyngeal swab. Further, 11 patients reported a member of their family or close contact with respiratory symptoms suggestive of COVID-19 infection, with 2 of them undergoing naso-pharyngeal swab with negative results. Meanwhile, on the 11th of April at Padua University Hospital we had 97 COVID cases in non-intensive care units and 20 in intensive care units

because of severe COVID-19 infection.

In this analysis we report a real life “snapshot” of a cohort of CeD patients during the SARS-CoV-2 outbreak in Italy, all followed in one tertiary centre in a red area of Northern Italy. Our data show, in accordance with Emmi et al., the absolute absence of COVID-19 diagnosis in our population, although 18 subjects experienced flu-like symptoms with only one having undergone naso-pharyngeal swab. As a consequence, we cannot exclude in this subgroup the presence of undiagnosed infections. On the other hand, the lack of patients with severe flu-like symptoms requiring hospitalisation or at least COVID-19 assessment further support the absence of risk for COVID-19 infection in patients with CeD. The main limitations of this analysis are related to the observational nature and the short duration of follow-up. However, according to our routine clinical practice, patients can communicate any complication to our team through a dedicated e-mail and no signs of SARS-CoV-2 infection or severe respiratory symptoms have been communicated at the time of writing (May 11th, 2020). We only evaluated patients on a gluten free diet, so far no data on the risk at the time of diagnosis can be extrapolated from this study. Long-term clinical and epidemiological studies in celiac disease will be of great utility in the field but these preliminary data seem to suggest that CeD patients are not at higher risk of COVID-19.

## Financial support

None.

## Declaration of Competing Interest

None.

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<https://doi.org/10.1016/j.autrev.2020.102639>

Received 16 May 2020; Accepted 21 May 2020

Available online 13 August 2020

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