



## The informative experience of endocrine residents with COVID-19

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Dear Editor,

On February 26th 2020, 6 days after the detection of the index case of COVID-19 in Codogno, a small town 60 km from our hospital, we had a meeting with one supervisor, six postgraduate students (3F, 3M; age range: 25–27 years), one nurse (F, 43 years) and the head of the School of Endocrinology, University of Milan, to discuss the management of two clinical cases and assign the wards for the next couple of weeks. Two days after, 5/6 residents were affected with fever (37.7–38.2 °C) and variable flu-like manifestations (headache, weakness, myalgia, and sore throat). Following the national and regional indications, the affected participants were confined at home. One female reported gastrointestinal manifestations, another one reported mild chest pain, the third female had no additional symptoms and none reported cough or short breath. The manifestations lasted 1–4 days in the three females. Two nasopharyngeal swabs performed on two different days, 1 week after remission, were negative and they were readmitted to service. Conversely, 2 out of 3 males reported mild fever (37.1–37.5 °C) as main symptom, accompanied by weakness and headache for 2–3 days and both referred a delayed appearance of dysgeusia and anosmia that lasted another 10–14 days [1]. The nasopharyngeal swabs resulted positive for SARS-CoV-2 infection in both of them on five occasions at 1-week interval and the last one was obtained at 55 days after remission from mild manifestations. Two negative swabs were finally obtained 60–65 days after remission in both residents. Up-today, the remaining meeting participants were completely asymptomatic, but the swab resulted positive twice in the endocrine nurse at term of her quarantine period, 21–34 days after

the initial meeting. Thus, the SARS-CoV-2 infection can persist in the nasopharyngeal tract longer than previously reported in symptomatic patients after remission [2], but we are not aware of similar data in asymptomatic or paucisymptomatic subjects. The involvement of the cranial nerves for olfaction and taste, and male sex may associate with its long persistence.

Since all subjects did not have any relation with the areas of epidemic outbreaks, this history is also consistent with a diffusion of the infection in northern Italy several weeks earlier than the detection of the index case [3]. SARS-CoV-2 infection would have diffused undetected among young adults (more likely to travel on public transports and attend crowded schools, events or clubs) because coexistent with the peak of the flu epidemics.

Since the long persistence of the SARS-CoV-2 in the upper respiratory tract of asymptomatic or paucisymptomatic young adults is likely to contribute significantly the diffusion of the infection, an adequate extension of preventive measures at familial, working and community levels should be adopted, particularly after lockdown when re-opening of the social and working activities will be authorized.

The colleagues and nurses with whom residents had come into contact were asymptomatic in the days when they manifested the symptoms. As for the patients, their access to the hospital was subjected to temperature screening and the residents wore personal protective equipment during the visits. No known direct contacts were reported from relatives and friends. Given the early stages of the pandemics at the times the residents get infected, it is not possible to know for sure for each case the exact origin of the infection. It may have been carried out in the hospital by asymptomatic colleagues or patients or on public transport on the way to work. It is not equally possible to consider or exclude the meeting as the precise moment of infection. In this case, the transmission would have occurred by asymptomatic individuals.

The infected residents and the nurse lived either alone or with their families. In the latter case, isolation in the bedroom and separation of the bathrooms was adopted. Neither

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the residents nor the nurse infected their relatives, and they were asymptomatic in the previous days. The low infectivity rate among relatives probably it is not just the reflection of the virus one, but it is also indicative that the health care workers correctly followed the isolation standards required during their quarantine.

The COVID-19 infection forced the suspension of the affected residents' clinical activity. At the end of their quarantine—after two negative nasopharyngeal swabs—the residents were called to carry out activities in retirement home and in the internal medicine department to deal with the COVID-19 emergency. This contingency concerned many other Italian endocrinology units [4].

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### Compliance with ethical standards

**Conflict of interest** The authors declare no conflict related to the content of this letter.

**Ethical approval** This article does not contain any studies with human participants or animals performed by any of the authors.

**Informed consent** No informed consent.

## References

1. Lechien JR, Chiesa-Estomba CM, De Siati DR, Horoi M, Le Bon SD, Rodriguez A, Dequanter D, Blecic S, El Afia F, Distinguin L, Chekkoury-Idrissi Y, Hans S, Delgado IL, Calvo-Henriquez C, Lavigne P, Falanga C, Barillari MR, Cammaroto G, Khalife M, Leich P, Souchay C, Rossi C, Journe F, Hsieh J, Edjlali M, Carlier R, Ris L, Lovato A, De Filippis C, Coppee F, Fakhry N, Ayad T, Saussez S (2020) Olfactory and gustatory dysfunctions as a clinical presentation of mild-to-moderate forms of the coronavirus disease (COVID-19): a multicenter European study. *Eur Arch Otorhinolaryngol*. <https://doi.org/10.1007/s00405-020-05965-1> [Epub ahead of print]
2. Ling Y, Xu SB, Lin YX, Tian D, Zhu ZQ, Dai FH, Wu F, Song ZG, Huang W, Chen J, Hu BJ, Wang S, Mao EQ, Zhu L, Zhang WH, Lu HZ (2020) Persistence and clearance of viral RNA in 2019 novel coronavirus disease rehabilitation patients. *Chin Med J (Engl)*. <https://doi.org/10.1097/CM9.0000000000000774> [Epub ahead of print]
3. Boccia S, Ricciardi W, Ioannidis JPA (2020) What other countries can learn from Italy during the COVID-19 pandemic. *JAMA Intern Med*. <https://doi.org/10.1001/jamainternmed.2020.1447> [Epub ahead of print]
4. Isidori AM, Jannini A, Lenzi A, Ghigo E (2020) The Italian Endo-COVID-19. Our response to the emergency. *JEI*. <https://doi.org/10.1007/s40618-020-01279-5> [Epub ahead of print]

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