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New expert statement confirms strong links between our hormones and COVID-19

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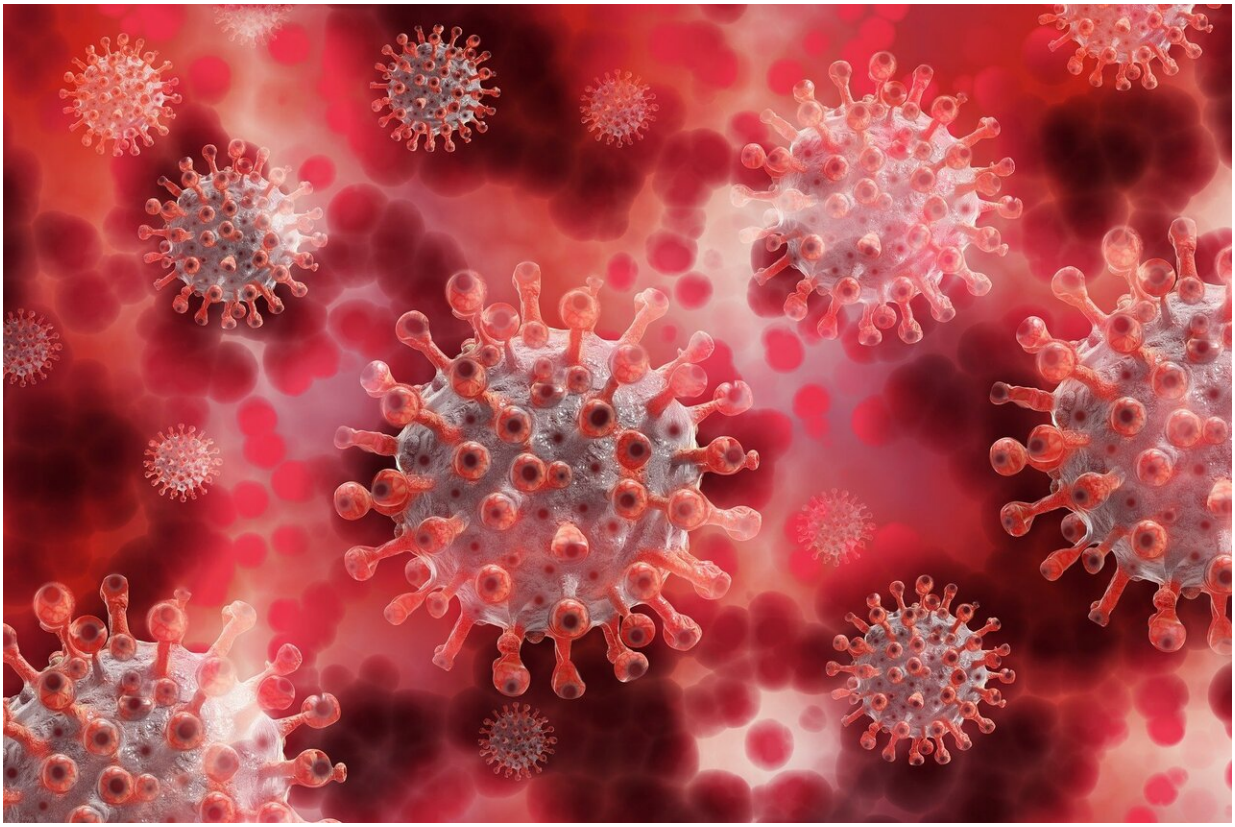

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The endocrine system is strongly involved in SARS-Cov-2 infection—so much so that evidence of an 'endocrine phenotype' of COVID-19 has emerged, according to a statement by the European Society of

Endocrinology (ESE) published in the journal *Endocrine* in April 2021. Leading endocrinology researchers looked into the evidence that has accumulated over the past year since the pandemic emerged, and consistently found evidence for links across a variety of endocrine conditions. This statement constitutes an update of a March 2020 statement that was of the earliest and most read pieces delineating the involvement of the endocrine system in COVID-19.

Dr. Manel Puig from the Universitat Autònoma de Barcelona in Spain and first author on the statement said "the evidence is clear. The effect on hormones cannot be ignored in the context of COVID-19". He added "we need to be aware of the endocrine consequences of COVID-19 for patients with a known endocrine condition such as diabetes, obesity or adrenal insufficiency, but also for people without a known condition. Vitamin D insufficiency for example is very common, and the knowledge that this condition has emerged frequently in the hospitalized COVID-19 population and may negatively impact outcomes should not be taken lightly".

Dr. Puig, together with Profs Marazuela, Yildiz and Giustina based in Madrid, Ankara and Milan looked at the available evidence with respect to COVID-19 across a number of endocrine conditions and related factors: diabetes, obesity, nutrition, hypocalcemia, vitamin D insufficiency, vertebral fractures, adrenal insufficiency, as well as pituitary/thyroid issues and sex hormones.

Diabetes has emerged as one of the most frequent comorbidities associated with severity and mortality of COVID-19, according to a rapidly increasing amount of published data on the incidence of COVID-19 in patients over the last year. Mortality in type 1 or type 2 diabetes has consistently increased during the year of pandemic—and evidence is emerging that a bidirectional relationship between diabetes and COVID-19 may exist, both in terms of worsening existing

conditions and new onset of diabetes.

The researchers identified similar trends for patients with obesity. Obesity increases susceptibility to SARS-CoV-2 and the risk for COVID-19 adverse outcomes. They posit that nutritional management is important both for patients with obesity or undernourishment in order to limit their increased susceptibility and severity of infection. Vitamin D, calcium and bone are other areas showing a growing body of evidence that better monitoring and solutions for patients are needed in the context of COVID-19.

With regard to vaccination, the statement concludes that available evidence suggests COVID-19 vaccination should not be handled differently in patients with stable endocrine diseases. However, patients with adrenal insufficiency may need adjusted glucocorticoid treatment to address side effects such as fever. The authors suggest data from the field should be collected in an international database in order to form firm conclusions on this matter. They also present a decalogue for endocrinologists and patients with endocrine and metabolic conditions in the conclusions of the statement.

This knowledge highlights the important role endocrinologists will need to play in future research on COVID-19 and other global health issues.

More information: M. Puig-Domingo et al, COVID-19 and endocrine and metabolic diseases. An updated statement from the European Society of Endocrinology, *Endocrine* (2021). DOI: 10.1007/s12020-021-02734-w

Provided by European Society of Endocrinology

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