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LETTER

Letter to the Editor: "COVID-19 and the endocrine system: exploring the unexplored". Focus on acromegaly

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Dear Editor,

The acromegalic patient is more fragile towards the SARS-CoV-2 infection because of the frequently associated comorbidities such as cardiovascular complications, diabetes mellitus and obstructive sleep apnea syndrome. These aspects were not addressed in detail in previous publications [1].

It is, therefore, mandatory to identify the most useful therapeutic choice to obtain a rapid biochemical control of the disease, an adequate glycometabolic control and, where possible, an immunomodulatory action.

Somatostatin analogues (SSAs) are the drugs of choice in patients waiting to undergo neurosurgery postponed due to the pandemic. They interfere with the effects of GH and IGF-1, amplified by concomitant hyperinsulinism, in particular on atherosclerosis.

In the respiratory system they reduce the tissue turgidity and the sensitivity of chemoreceptors to hypoxia by improving breathing [2].

The association of increased lung volume and increase of the exchange surface (alveolar hypertrophy or hyperplasia) [2] should be considered in the treatment of COVID-19 positive acromegalic patients, as well as microvascular damage.

Pegvisomant antagonizes endogenous GH at the GH receptor level and thereby reduces IGF-I production. Long-term treatment with Pegvisomant has been reported to have more favorable effects on glucose homeostasis than SSAs by improving insulin sensitivity and endogenous glucose production rate.

For a more stringent glycometabolic control the blinded Continuous Glucose Monitoring Systems (CGMS), throughout a period of maximum 6 days for a total of 288 glycemic registrations per day, could be taken into consideration to understand the 24-h glycemic trend and profiles, data that the clinician can view remotely.

There are few interesting studies on a controversial immunomodulatory effect of Pegvisomant. The thymotropic properties of the somatotrope GH/IGF-1 axis involve an interaction between exogenous GH and GHR expressed by thymic epithelial cells. The inhibition of GH effects by Pegvisomant strongly argues for the specificity of GH effect on the thymus by the downregulation of GHr expression, with a parallel decrease in thymic IGF1 transcription. Effects only partially reversed by Pegvisomant [3].

Moreover, many acromegalic patients are taking ACE inhibitors to treat heart failure and hypertension, a therapy that could facilitate COVID-19 development, due to increased expression of ACE2. Currently, we have no data confirming that the use of ACEIs or ARBs facilitates virus entry into human cells but antihypertensive therapy should be closely monitored in this class of patients.

In conclusion, a multidisciplinary management of acromegaly during the COVID-19 pandemic is mandatory, to establish shared guidelines for its management.

Compliance with ethical standards

Conflict of interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

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

Informed consent For this type of study, formal consent is not required.

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