

Supplementary Table S1. Summary of the main descriptive findings related to the three specific questions.

SARS-CoV-2 Mediated injury		Hypothesized Mechanisms of Worse Progression of COVID-19 (If Baseline Condition)	Management
Cushing's disease		Hyperglycemia Increase in arterial blood pressure Thrombotic diathesis High cardiovascular risk [61,62] Pharmacological interferences [66–68] (hypoglycemia; QTc prolongation; hypokalemia)	Tight control of risk factors if sick Avoid unnecessary in-person follow-up visits until fully vaccinated Plan alternative strategy of follow-up visits (i.e., telemedicine) Prioritize access to diagnosis and cure of CD cases in case of high suspicion only Prioritize vaccine administration can be useful
	-	Dexamethasone and mifepristone - Tocilizumab and ketoconazole and mifepristone - Mitotane and Remdesivir - Somatostatin analogues and hydroxychloroquine	
Adrenal insufficiency	Hypophysitis due to cross-reacting antibodies against endogenous ACTH [34,37] Acute bilateral adrenal thrombosis or hemorrhages (i.e., sepsis) [210,213]	Adrenal crisis may increase mortality in case of infectious disease, including COVID-19 [90] Immune system imbalance (i.e., NK cells cytotoxicity and mononuclear cells impairment [206,207]) Hypotension Arrhythmias (hypokalemia)	Supplement hydrocortisone replacement per os in case of signs and symptoms of systemic inflammation regardless of COVID-19 etiology (sick day rule) [78] Consider hydrocortisone supplementation even in case of vaccine-related signs and symptoms (i.e., fever) Emergency call or urgent access to the emergency department when an adrenal crisis is highly suspected (hypotension, vomiting, fatigue, abdominal pain) Adequate steroidal tapering before discharge in case of severe COVID-19 cases treated with dexamethasone Prioritize vaccine administration can be useful
Diabetes insipidus	Direct or immune-mediated (neuro)hypophysitis [51] Hypoxic encephalopathy consequent to severe respiratory insufficiency [52] Sevoflurane for endotracheal intubation (nephrogenic) [53]	Thrombotic diathesis (severe hyponatremia)[56]	Adequate monitoring of diuresis, fluid intake, serum electrolytes, plasmatic and urinary osmolarity, arterial pressure Supplementation of hypotonic fluids and desmopressin (orally, intranasal, or parenterally based upon clinical background conditions) [54] Periodic and intermittent desmopressin withdrawal (i.e., a day per week for aquaresis) if access to laboratory examinations is difficult
Acromegaly		High cardiovascular risk [70,71] Background pulmonary complaints [70,71] Hyperglycemia [70,71] Increase in arterial blood pressure [70,71]	Achieve normal or near-normal IGF-1 levels Consider additional treatments for controlling comorbidities (hyperglycemia or arterial hypertension), such as GH receptor antagonists Pituitary surgery should be selected based upon clinical conditions and epidemiological pressure Prioritize vaccine administration can be useful
GH Deficiency		No general complaints	Avoid discontinuation of GH replacement
Hypopituitarism	Possible onset of hypophysitis and hypopituitarism [36]	Possible acute risks in case of adrenal insufficiency	Precocious recognition of risk factors suggestive for new-onset hormonal deficit (mostly hypoadrenalism and hypothyroidism) requiring urgent replacement treatment Prioritize vaccine administration can be useful
Hypothyroidism	Subacute thyroiditis [82–89] Atypical thyroiditis [82–89]	No general complaints Cardiovascular events possibly due to severe and	Maintain adequate management of patients also at-distance

	Possible trigger of thyroid auto-immunity (long-term)	uncontrolled hypothyroidism [121,122]	Evaluate those patients with a medical history of SARS-CoV-2 infection complicated to thyroid dysfunction Evaluate possible long-term thyroid complaints in those who recovered from COVID-19
Hyperthyroidism	Possible trigger of thyroid auto-immunity (long-term) Relapse or recurrence of previously controlled hyperthyroidisms	No general complaints Cardiovascular events possibly due to severe and uncontrolled hyperthyroidism [121,122]	Guarantee adequate follow-up also at distance New-onset cases should be recognized and treated promptly A block and replace regimen may reduce the need for repeated TSH measurement to titrate antithyroid medications In case of occurrence of autoimmune hyperthyroidism in patients who recovered from COVID-19, long-term follow up could help acquire epidemiological information
Non-thyroidal illness syndrome	Related to a high-grade systemic inflammation [103,104] Usually observed in seriously ill patients	It is unclear if it should be always considered as an adaptive mechanism rather than may have a role in worsening the prognosis of severe COVID-19 cases [111]	Further research will indicate if NTIS should be treated and which patients will obtain clinical benefits [116]
Thyroid nodule	-	No reasonable risks	Assess nodule risk stratification Prioritize fine needle aspiration and cytology for at-risk population only [129,130]
Thyroid carcinoma	-	No reasonable risks	Ensure adequate follow-up also at distance Prioritize surgery based upon clinical staging and airways complaints [131,132] Access to radioactive iodine therapy based upon initial risk stratification
Hypercalcemia		No reasonable risks	Prioritize patients requiring parathyroidectomy Medical management should be started or continued in mild forms or in those case in which surgery is declined or contraindicated
Hypocalcemia	Related to a high-grade systemic inflammation	Possible role of hypocalcemia in worsen the prognosis, but it could be necessary to avoid confounders (e.g., renal insufficiency, hypoalbuminemia) [165–167]	Calcium, Vitamin D, and where necessary, Magnesium supplementations are necessary to maintain adequate calcium homeostasis Follow-up should also be guaranteed at distance by telemedicine Reinforce education to recognize and manage symptoms of latent hypocalcemia
Primary Osteoporosis	Systemic inflammation [199] Prolonged use of systemic glucocorticoids [199] Prolonged bed immobilization of severe cases [199] Prolonged home self-confinement [199]	No reasonable risks	Prevent with vitamin D and calcium supplementation in high-risk patients Discontinuation of antiresorptive medications (i.e., denosumab) is not recommended as it may increase the short-term risk of fracture considerably [184] Prioritize vaccine administration can be useful
Cushing syndrome		Cardiovascular risk [221,222] Thrombotic diathesis [223] Immunosuppression, and background systemic inflammation [224] Increased risk of opportunistic infections	Control risk factors through specific therapies Provide antibiotics/antimycotic therapy to prevent respiratory superinfections [231] Prioritize vaccine administration can be useful
Male hypogonadism	Direct or immune-coagulative mediated testicular damage [233,234] Sperm quantitative and qualitative	Testosterone may foster SARS-CoV-2 internalization into host cells [180] Testosterone deficiency increases the risk of cardiovascular events; may precipitate thrombotic events	Testosterone replacement therapy should be continued in case of SARS-CoV-2 infection [252] Long-term follow up could provide help-

	<p>tive changes (due to SARS-CoV-2 or instead to fever, concomitant use of antibiotics/systemic steroids)</p>	<p>and exacerbates immune system dysfunction; may worsen glucose control and foster weight gain and visceral adipose tissue accumulation [180,248]</p> <p>Patients displaying low levels of Testosterone, despite confounding factors, exhibit poor prognosis due to COVID-19</p>	<p>ful information about testicular health in patients who had recovered from COVID-19</p> <p>Testosterone assessment in hospitalized COVID-19 patients may have a prognostic role</p> <p>Prioritize vaccine administration can be useful, especially when T deficiency in elderly and comorbid patients</p>
Polycystic ovary syndrome	<p>Despite ovarian tissue express ACE2, it has been excluded a possible SARS-CoV-2 related ovarian damage</p>	<p>Increased risk of contracting SARS-CoV-2 [280]</p> <p>Androgens may predispose to a greater cardiovascular risk than the general population</p>	<p>Search for reasons explaining a possible significant risk of contracting SARS-CoV-2 and reinforce hygienic tips to decline this burden</p> <p>Prioritize vaccine administration can be useful</p>