

ENDOCRINE DYSFUNCTION AMONG PATIENTS WITH COVID-19: A EXPERIENCE FROM TERTIARY HOSPITAL IN BANGLADESH

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Background: Endocrine systems are vulnerable to destruction and dysfunction by coronavirus disease 2019 (COVID-19). Data regarding the follow-up status of hormones following the recovery are scarce in the literature. The aim of the study to evaluate hormone levels and statuses among noncritically ill patients with COVID-19 during and three months after acute infection. **Methods:** This longitudinal study was done in a tertiary care hospital from September 2021 to February 2022 among 91 noncritical RT-PCR-confirmed COVID-19 patients. After taking relevant history and performing physical examinations, blood was drawn between 07:00 am to 09:00 am in a fasting state to measure serum TSH, FT4, total testosterone (TT), DHEAS, cortisol, and plasma ACTH during hospitalization and after three months. All the hormones were measured by chemiluminescent microparticle immune assay. **Results:** During admission, 19.8% of participants had adrenal insufficiency (<276 nmol/L) and 28.0% had different types of thyroid function abnormalities. Among 37 males, 8.1% had low TT and 29.7% had low DHEAS. Among 54 females, 27.8% had high TT and 7.4% had low and 3.7% had high DHEAS. Among 91, 8 died, 68 were lost to follow-up, and follow-up hormone levels were available for only 15 participants. The number of participants with adrenal insufficiency increased from 1 to 7. During admission, 7 patients had various types of thyroid function abnormalities which reduced to only three cases including two cases of primary hypothyroidism. While TT and DHEAS status deteriorated in males, increased hyperandrogenemia status was observed in females. **Conclusion:** Adrenal insufficiency is common during short-term follow-up periods even in noncritical cases of COVID-19 whereas most of the patients with thyroid function abnormalities recovered. A sex-specific opposite response was observed in androgen status.

Keywords: COVID-19, Cortisol, Thyroid function, Total testosterone, Dehydroepiandrosterone sulfate

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