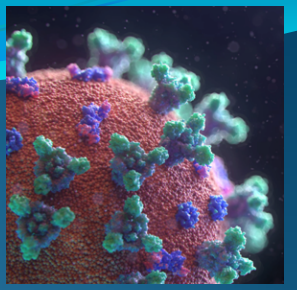

COVID19: Could RIA serum 25-hydroxycalciferol-D_3 represent a reliable prognostic factor of disease outcome?

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INTRODUCTION-BACKGROUND

- **Hypovitaminosis D** is associated with many disorders, including DM, bronchial asthma, neurodegenerative entities, cardiac diseases, & obesity with immune–induced inflammatory conditions
- **COVID-19** patients bearing severe manifestations, usually suffer from at least one of \ the aforementioned diseases
- Evaluation of serum levels of 25-hydroxycalciferol [**25(OH)D_3** or vitamin D] in **COVID-19** patients could predict disease outcome

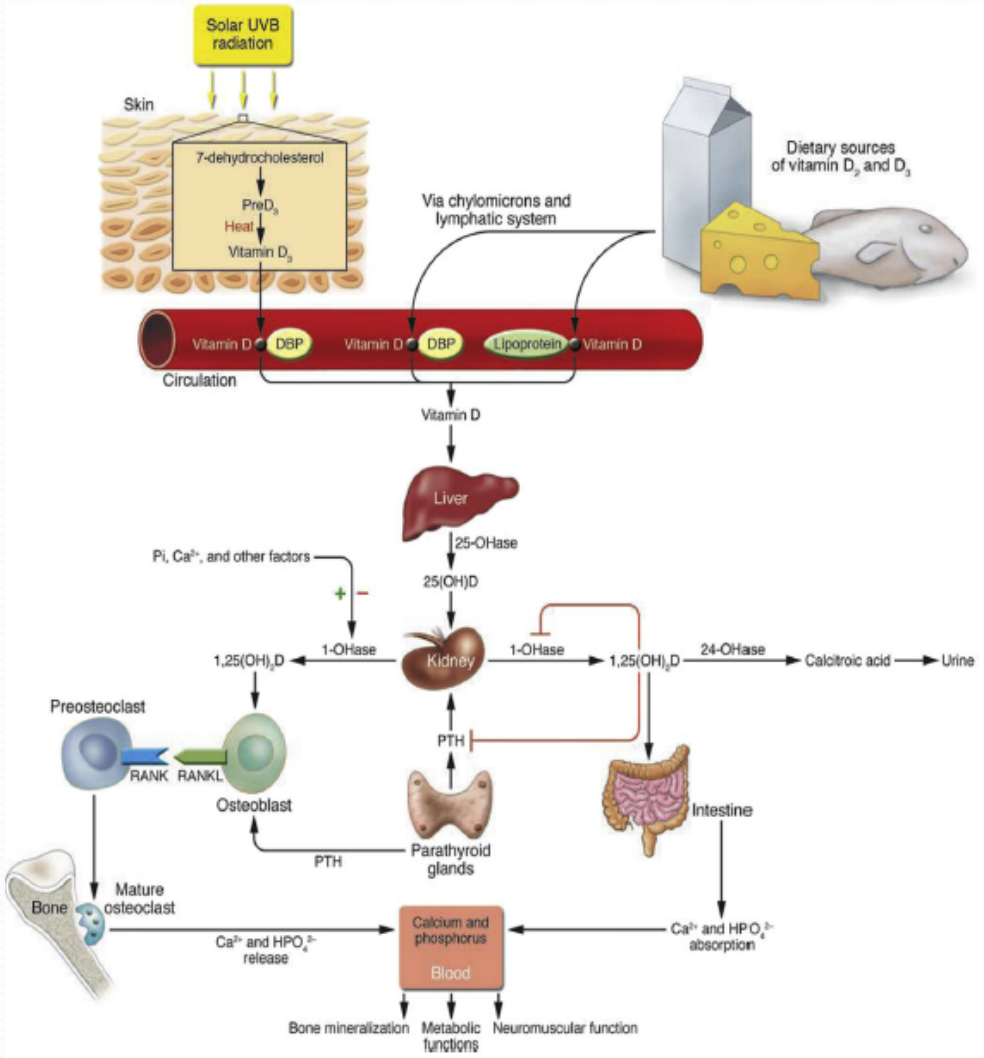

Fig. 1. Vitamin D synthesis and metabolism [17].

[17] Holick MF, Binkley NC, Bischoff-Ferrari HA, Gordon CM, Hanley DA, Heaney RP, et al. Evaluation, treatment, and prevention of vitamin D deficiency: an Endocrine Society clinical practice guideline. J Clin Endocrinol Metab 2011;96(7):1911–30.

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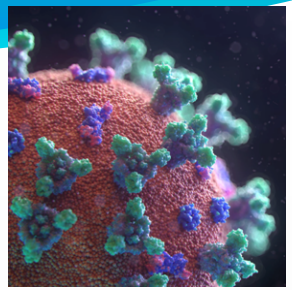
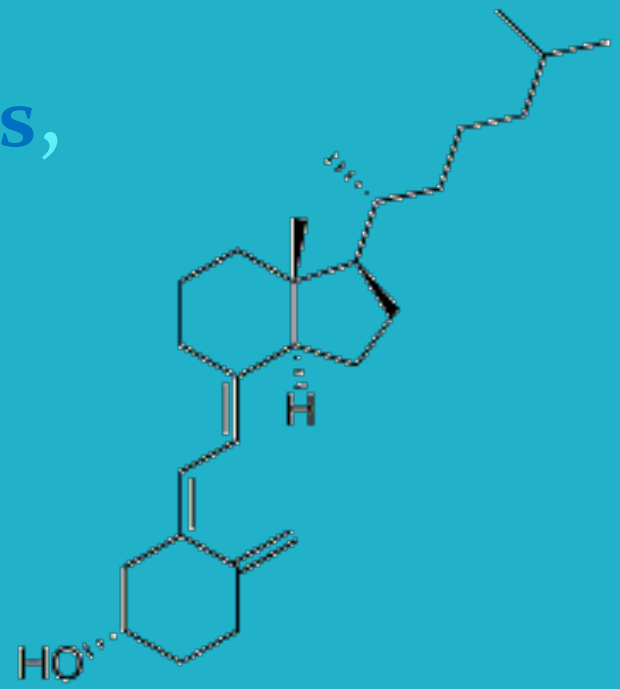


OBJECTIVE OF THE STUDY

- In the context of our ongoing research protocol, we prospectively measured serum **25(OH)D_3 levels** in patients at different **COVID19 stages**, upon investigating for possible correlations between **25(OH)D_3** variations & disease severity/outcome



https://www.selleckchem.com/products/vitamin-d3-cholecalciferol.html

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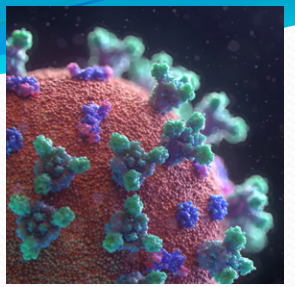
METHODOLOGY

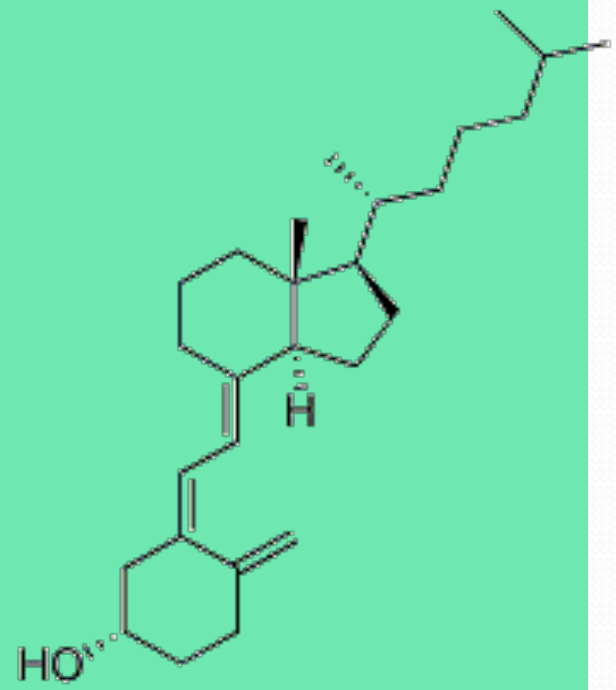


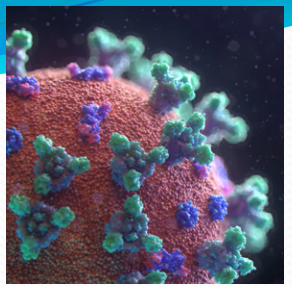
Nº of patients with Covid19: 63		Mean age (yrs)	Methods
males	females		
47	16	76 ± 8	A blood sample was collected from each patient & baseline 25(OH)D_3 was measured in our laboratory by radioimmunoassay (RIA) using the kit 25-OH Vitamin D total RIA (Immunotech, Prague, Czech Republic) Thereafter, for hospitalized patients, blood sampling was repeated once/wk unless otherwise indicated, in terms of clinical deterioration; for homebound patients, serum 25(OH)D_3 was determined at the end of the surveillance period Finally, 25(OH)D_3 measurements were performed during follow-up at local protocol-based intervals

RESULTS

- A total of 189 blood samples revealed **hypovitaminosis D** escalating from mild to severe at analogous clinical conditions

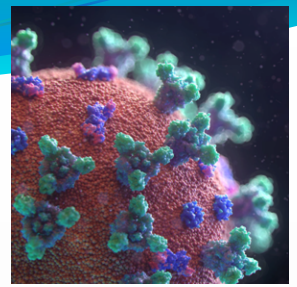
- The lowest serum **25(OH)D_3 levels** were found in patients at advanced disease, while higher values were compatible with better performance status &/or clinical & imaging improvement



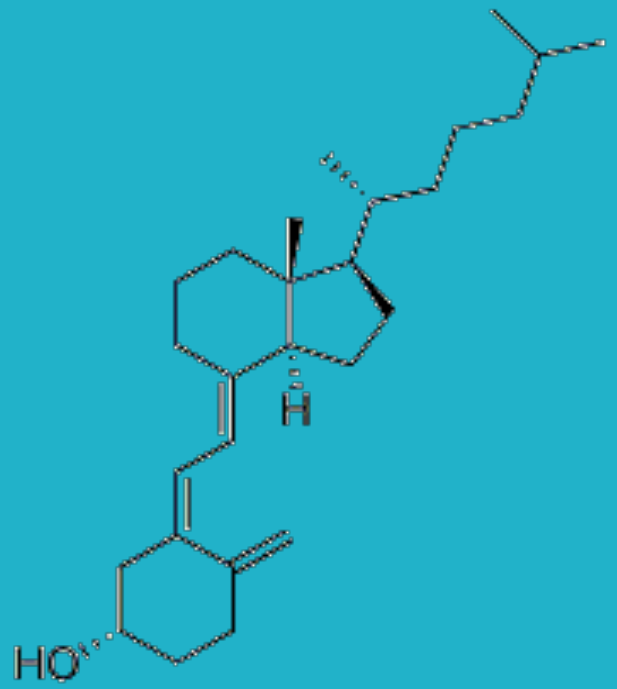


DISCUSSION

- Vitamin D constitutes an integral part of various cellular processes, such as the mitochondrial function, reduction of inflammation, antagonism of oxidative stress, as well as regulation of intraneural calcium
- According to the herein preliminary results, COVID19 patients expressed progressively lower 25(OH)D_3 values, in accordance with advancing clinical & imaging status



CONCLUSIONS



- Further research may substantiate the application of **RIA** determination of **25(OH)D_3** levels as a valuable prognostic factor of **COVID19** outcome

Thank you
for your time and attention