

# High Dose Vitamins for a COVID-19 Patient in Acute Respiratory Distress Syndrome and Cytokine Storm

Lawrence G. Chang, DO, MPH; Safwan Zar, MD; Daniel Spunberg, MD;  
Benjamin Seidel, DO; Aaron Greenberg, DO  
Burke Rehabilitation Hospital, White Plains, NY

## Case Description

79-year-old woman with COPD and CHF admitted to standalone acute rehabilitation for COVID-19 pneumonia during peak of pandemic in New York City.

She developed worsening shortness of breath, impending doom, and placed on 15 liters of oxygen with nonrebreather mask. Chest X-ray revealed developing acute respiratory distress syndrome. She was unable to be sent out for further acute care management due to unavailable beds. She was placed on DNR/DNI.

Ceftriaxone, hydrochloroquine, and azithromycin were prescribed for pneumonia. 8 grams of oral vitamin C (no IV vitamin C available) was trialed to prevent/reduce cytokine storming as Chinese and Italian reports had endorsed that megadoses reduced mortality.

The next day, the patient survived and felt well. She was continued on 8 grams of vitamin C for almost two weeks. Oxygen saturation and fever curve improved.

She was weaned down to her baseline 2 liters of oxygen at about four-five weeks time with continuation of lower dose vitamin C and returned back to her assisted living facility.

A Vitamin Protocol had also been created and implemented, with high dose Vitamin D, zinc, thiamine, coenzyme q10. However the major ingredient was vitamin C. Vitamin C was dosed depending on illness severity.

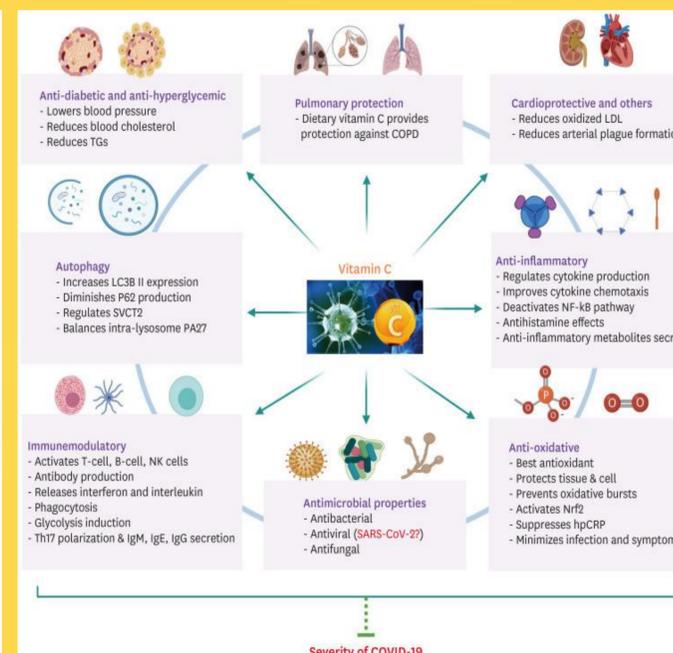
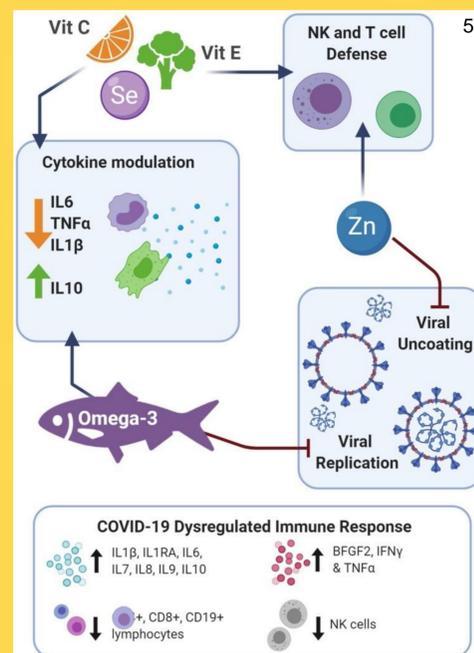
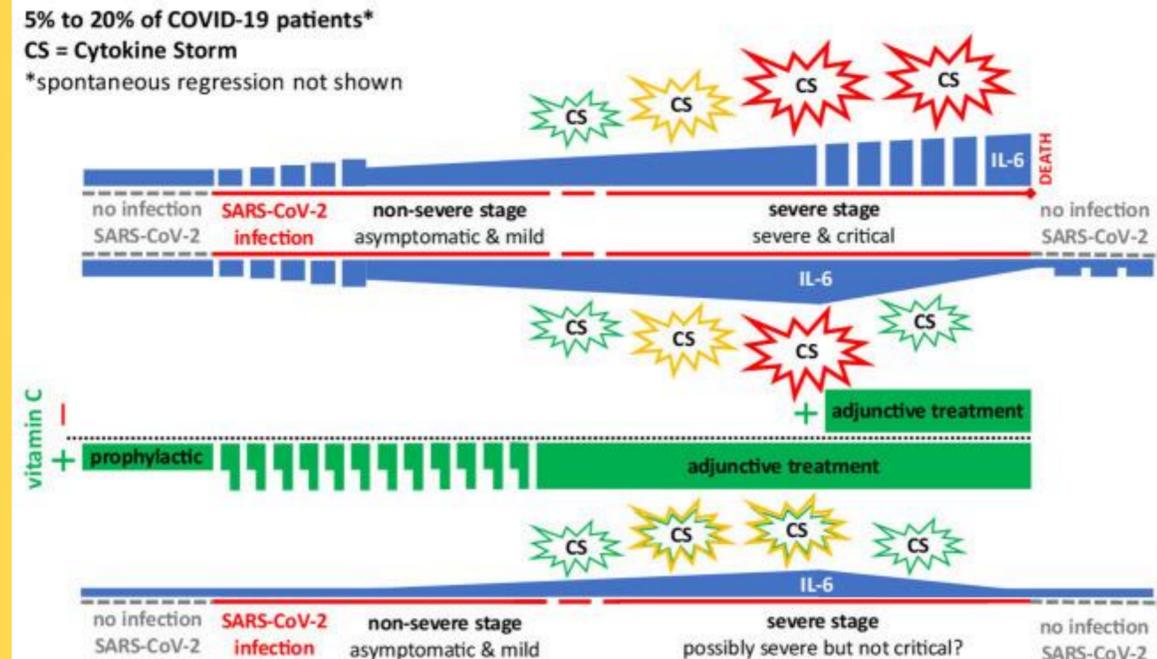
### COVID-19 severity and oral Vitamin C dosing

Mild : 1-2 g Vit C daily (total; can divide doses)

Moderate : 4-6g Vit C daily (total; bolus, then divided doses)

Severe : 8-12g Vit C daily (total; bolus, then divided doses)

## High Dose Vitamin C Mechanism of Action



## Discussion

During the COVID-19 pandemic, the time to act and ability to fight COVID was scarce in terms of knowledge, access, and resources. Even more limited was being in a stand alone rehabilitation hospital transitioned to acute care created great stresses on the system and the healthcare providers but also pushed us to empirically use vitamins to prevent cytokine storming. Although high dose vitamin C has been controversial it seems to have uses in preventing cytokine storming, being anti-viral, and improving immunity.

## Conclusions

Megadose vitamins may play a role in improving immunity and preventing cytokine storming. Even more, vitamins can be cost-effective as a “poor man’s” medicine against COVID-19 in the early stages. It could be an alternative or adjunct to the antibiotics, immunological agents, and/or vaccines which have yet to become widely available and ready to use.

## References

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