

# Selenium May be the Cornerstone for Preventing and Treating Covid-19 if Added with Treatment Protocol

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## INTRODUCTION

Since the beginning of Covid-19 outbreak in February 2019 in China, millions of people all over the world have been infected and thousands lost their lives in different countries with no definite treatment and no vaccine discovered yet despite tremendous efforts of scientists and doctors.

Human life is the highest value and any medicine whether old or new that proves efficacious in fighting this deadly virus should be considered and researched.

In this short report I would like to summarize my personal observations supported by evidence from the literature about the role of selenium; a trace element in prevention and treatment of Covid-19.

The first time I noticed a possible link between Covid-19 and selenium was in February 2020 when I managed a 12-year old girl who was complaining of hair falling out and cracked nails. This was associated with lymphopenia; indications of signs of selenium deficiency, she received treatment including selenium and improved. A few weeks later following a visit to Iran the girl was the only member of her family not to contract Covid-19

Selenium can fight viral infection, and if there is selenium deficiency it will increase the possibility of mutation and this can lead to more serious and even fatal complications. Viruses need selenium to be protected from effects of free radicals. When virus enters human cells lacking selenium, it can undergo mutations making it far more dangerous [1].

Studies have shown that selenium increases immunity against viral infections and cancer [1-5]. Selenium has also been used as an antimicrobial agent against viral, bacterial and fungal infections [6][7]. It is used specially for RNA type viruses such as covid-19. In addition it has been used previously against Coxsackie, HIV, hepatitis C influenza and Hanta-viral infections; all these are RNA viruses like Covid-19 [8-10].

Moreover, Selenium is an antioxidant agent and the selenium - glutathione system plays a major role in the enhancement of immunity, fighting viral infections [11][12].

Selenium has also a role in thyroid function and other hormones which have a potential effect on immunity [13]. There is a similar clinical presentation of Covid-19 and selenium deficiency, for example lymphopenia, arthralgia and infertility in males; some of these appear in later stage of Covid-19 infection which could be due to secondary depletion of selenium storage in the body [14].

One may wonder why covid-19 initially appeared in China and why bats were the main reservoir of the virus. The answer could be due to the fact that most of the Chinese population has selenium deficiency [15-18] and bats in China have been shown to have mercury poisoning which antagonizes the action of selenium inside the body [19][20].

A city in the Indian state of Kerala has reported the lowest rate of Covid-19 infections and the highest recovery rates with no covid-19 related deaths so far. This is thought to be due to high levels of selenium in the soil and vegetables [21]

Some foods which are considered protective against covid-19 such as onion and garlic contain high amounts of selenium [22].

Assessing the research evidence and my observations I began to use selenium in some patients and obtained positive response in treatment and prophylaxis.

Till now I have 50 patients with different age groups they show good response to selenium when added with their treatment and their contacts didn't get the disease.

It is worth noting that some international health bodies have come to similar conclusions about the use of selenium and have begun to use this treatment for Covid -19 [23][24].

Prof. David Perlmutter, Professor at the University Of Miami Miller School Of Medicine, explained the role of selenium in fighting viral infection in general and covid-19 in particular in an online video posted on you-tube [25].

Recently it has been discovered that a major cause of death is increased incidence of blood clot formation in patients with covid-19, and there is increased D-dimer level which indicates a probability of coagulopathy in covid-19. Selenium reverses this

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effect by preventing the formation of clots, reducing D-dimer levels and other inflammatory markers [26-34].

**Table 1:** Finally this table showing the response of 50 patients with swab positive tests (PCR) who received selenium with their treatment protocol.

Some Clinical and Laboratory Data	Age in Years n(%)					Res po nse in Da ys	Tot al				
	1-5	6-10	11-15	16-20	>20		1-3	4-7	8-10	>10	
Clinical Features											
Fever	3	6	2	1	1	5	8	0	0	13	
Low grade											
High grade	5	3	8	9	12	6	21	10	0	37	
Cough	8	9	10	10	13	1	16	20	13	50	
Sore throat	7	7	10	10	13	5	31	11	0	47	
Dyspnea	3	5	8	9	12	2	21	14	0	37	
Headache	1	7	10	10	13	2	10	12	17	41	
Arthralgia	1	6	7	10	13	3	4	10	20	37	
Oxygen	No	2	1	0	0	0	-	-	-	3	
Saturation	Ab	6	8	10	10	13	1	32	14	0	47
Without O2											
Laboratory	WBC	5	7	9	10	12	5	12	26	0	43

Findings	No	3	1	1	0	1	-	-	-	-	6
	High	0	1	0	0	0	1	0	0	0	1
ESR	No	2	1	0	0	0	-	-	-	-	3
	High	6	8	10	10	13	0	2	19	26	47
CRP	No	0	0	0	0	0	-	-	-	-	0
	High	8	9	10	10	13	6	34	10	0	50
CT scan of chest	Negative	6	3	4	3	3	-	-	-	-	19
	Positive	2	6	6	7	10	-	-	-	-	31
D-dimer test	No	8	8	9	8	4	-	-	-	-	37
	High	0	1	1	2	9	0	0	13	0	13
Total		8	9	10	10	13	50				

## CONCLUSION

No death among all patients and the contacts who received protective selenium therapy didn't show any signs and symptoms after 4 weeks from their contact.

In summary, it appears that selenium plays an important role in the prevention and treatment of covid-19 by boosting the immune response and reducing the likelihood of serious complications and should be considered until more specific medication and vaccine are developed.

## REFERENCES

1. Selenium Fights Viral Infections.
2. Selenium can prevent infections and cancer.
3. Selenium, immune function and resistance to viral infections.
4. Selenium Deficiency and Viral Infection.
5. Selenium, immune function and resistance to viral infections.
6. Antimicrobial and antibiofilm effects of selenium nanoparticles on some foodborne pathogens. Selenium as an antiviral agent.
7. Selenium, Selenoproteins and Viral Infection
8. Selenium as an antiviral agent.

9. Coronavirus.
10. Role of glutathione in immunity and inflammation in the lung.
11. The Biochemistry of Selenium and the Glutathione System.
12. Selenium and Thyroid Disease: From Pathophysiology to Treatment.
13. Selenium Deficiency.
14. The Changing Selenium Nutritional Status of Chinese Residents.
15. The Role of Selenium in Special Endemic Diseases and Cancer in China.
16. China, A Country with both Selenium Deficiency and Toxicity: Some Thoughts and Impressions.
17. Keshan Disease and Selenium Status of Populations in China.
18. The role of selenium in mercury toxicity - Current analytical techniques and future trends in analysis of selenium and mercury interactions in biological matrices.
19. Mercury Bioaccumulation in Two Species of Insectivorous Bats from Urban China: Influence of Species, Age, and Land Use Type.
20. Kerala tops with highest recovery, least mortality rate.
21. Seleno-compounds in Garlic and Onion.
22. Does selenium have a role in controlling Covid-19 reproduction?
23. Coronavirus Conversations - Day 38: Selenium and COVID-19 and other Research Updates.
24. Complications Coronavirus Can Cause.
25. High rates of blood clots in COVID-19.
26. Blood clotting abnormalities reveal COVID-19 patients at risk for thrombotic events.
27. Time course and relationship between plasma selenium concentrations, systemic inflammatory response, sepsis, and multi-organ failure.
28. Selenium.
29. Studies on Vitamin E and Selenium Deficiency in Young Pigs. IV. Effect on Coagulation System.
30. Studies on Vitamin E and Selenium Deficiency in Young Pigs. IV. Effect on Coagulation System.
31. Time course and relationship between plasma selenium concentrations, systemic inflammatory response, sepsis, and multi-organ failure.