

IS GH3 (PROCAINE BASED) A POSSIBLE TREATMENT OPTION FOR REHABILITATING POST SARS-COV2 NEUROPSYCHIATRIC DISORDERS LIKE "BRAIN FOG" AND DEPRESSION?

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**Background:**

Since 1950, procaine hydrochloride and preparations using procaine as a component (e.g., Gerovital, Gerovital H3) have been utilized for their "anti-aging" properties.

Neuron regeneration, cell membrane modification, protection against brain anoxia, antioxidant activity, enhanced resistance to infections and toxins, antidepressant action, raised serum HDL-C levels, are all stated to be therapeutic effects. It is thought to reduce plasma cortisol levels and hence have an anti-stress impact, assisting in the prevention of dementia.

Procaine's antidepressant activity is mediated by selective and competitive inhibitions of monoamine oxidase and serotonin oxidative deamination, interference with S-adenosylmethionine-homocysteine/folates cycles, and the cholinergic-dopaminergic reward link, among other mechanisms.

Long-term symptoms of SARS-Cov2 infection include chronic fatigue, sleep problems, and neurological complications such as brain fog and depression.

After some SARS-Cov2 infections, it was found that there are complex bidirectional interactions between psychiatric distress and acquired cognitive deficiencies.

**Methods:**

We conducted a literature review of the last 20 years on the effects of Procaine therapy and its multiple actions, as well as articles dealing with the long-term symptoms of Sars-Cov2 infection from 2020 till present. The search terms are: "long Covid", "neurological sequelae", "depression", "procaine", "cognitive impairment", "brain fog".

**Results:**

Procaine, by its multi-systemic mechanisms, may help to recover more quickly from the "LongCovid" neuropsychiatric symptoms described above.

**Conclusion:**

After some more conclusive tests, procaine could be included in a rehabilitation protocol, as a possible treatment for depression, PTSD and cognitive impairment that may occur as a result of viral infections that have neuropsychiatric sequelae, like Sars-Cov2.