

Peer Review

# Review of: "Staunch the Age Related Decline into Dementia, Cancer, Autoimmunity (Long Covid), Obesity, and Other Diseases with a Prebiotic, Probiotic, Postbiotic Triple Play"

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This article is a comprehensive description of biochemical pathways involved with tryptophan and serotonin affecting the cytokine secretions leading to the development of various ailments like autoimmune disorders (Long COVID), cancer, and other neurological diseases. Most of the emphasis is given based on molecular changes in the products and byproducts being produced during diet intake. The concept provided a great theoretical base to understand this complex field leading to all sorts of disorders, including dementia.

All the figures provided give clarity on the subject.

Highlights can be of 3-4 points.

Figure 1: correct "infammaging" to "inflammaging."

Oxidative stress and Gut dysbiosis: "Persistent low grade of oxidative stress." This point is not clear!

Does a low grade of oxidative stress mean a low level, or a short-lasting, or an acute/chronic state is related to that particular level of oxidative stress predisposes to neuroinflammation?

Well demonstration of IFN $\gamma$  and TGF  $\beta$  cytokines and their role in controlling inflammation and cancer.

The conclusion is precisely defined, explaining the importance of the field and how that can be resolved by having an appropriate amount of pre, pro, and even postbiotic.

D-mannose helps propagate butyrate producers and improve intestinal integrity. Therefore, it opposes the hyperproduction of proinflammatory cytokines. Then, how would it be associated positively with CRP and negatively with HRV? You might like to look at this point! There is some vague explanation on the therapeutic point of view. However, different scenarios of proinflammatory cytokines and other macromolecules being secreted during various ranges of infections (from parasitic infections to viral infections, including autoimmune disorders and cancer, and from mild to severe stages) is a bit mixed information, especially low and high range IFN-gamma production. How much that range is being required to optimize the treatment if we consider the severe illness (or this part of the subject could be still under the research field!).

Overall, this is an exemplary model presented by the author.

Congratulations!

## **Declarations**

**Potential competing interests:** No potential competing interests to declare.