Review of: "Developing the theory of Toxic Chemotherapeutic Nutrition for Cancer Cells: Glucosodiene Polymer Structure, Safety, Efficacy, and Human Outcomes in Targeting Tumors via Glucose Mutation"

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Potential competing interests: No potential competing interests to declare.

My general comment on this manuscript is that it lacks some scientific accuracy/depth. The subject is presented in a very superficial manner.

Moreover, my other comments regarding this publication are the following:

-The pH concept. Intracellular and extracellular pH are different concepts, and this is not clearly presented. Moreover, it appears that the distinction is not made by the authors. Nothing on lactate transporters is mentioned, and these are fundamental for intracellular pH regulation. Was the extracellular pH measured eg. in the fibroblasts? And the intrcellular pH? How can you conclude that the anticancer effect is related to changes in pH? The compound can be toxic, or it can interfere with ATP generation.

-Heating the mixture to 100 degrees Celsius will originate water evaporation. How do you control the concentration of glucosodiene?

-The glucosodiene polymer (page 7). It is not clear if it is a dimer ($C_{12}H_{22}O_{11}$) or a polymer. The legend of Figure 4 also did not help is clarifying this.

Figure 2. There is no need to include glutamine in the Figure. Also, there is ATP synthesis in glycolysis.

Page 5: glucose transporters, not receptors.

Figure 1: The glucose transporters at the intestinal levels are incorrect: it is SGLT1 and GLUT2.

Legend of Figure 2: The metabolic shift is not called “glycolysis”, but rather “aerobic glycolysis”.

-I would not say that there is “a structural mutation” of glucose. This is mentioned several times, but the term is not correct.

-Authors tested the effect of glucosodiene against fibroblasts, but it would be very important to test it against breast cancer cells.

-Discussion, page 18: “Through its immune activity, Glucosodiene Polymer is likely to contribute to tumor suppression and enhance anti-tumor immune response. These findings have been inferred from observations and results recorded in a clinicaltrials.gov number (**NCT05957939**) involving the treatment of triple-negative breast cancer with bone metastasis using glucosodiene.”

Where is this evidence? What are the results from clinicaltrials showing this?