Review of: "[Case Study] Targeting the Warburg Effect with the Glucose Mutation Theory: A Case Study of 36-Year-Old Female Treated for Stage IV Metastatic TPBCUsing Glucosodiene Over a 15-Day Period"

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Potential competing interests: No potential competing interests to declare.

Cancer is one of the leading causes of death worldwide. There is increased evidence that the currently used cancer treatments, including surgery, radiation, and chemotherapy, have to be replaced with targeted therapies. Tumor cells' metabolism can be characterized by increased glucose uptake and lactate production via the Warburg effect.

In their previous publication, the author and his colleagues presented their new “Glucose Mutation” theory that targets it. (https://doi.org/10.32388/EBCKFO) In that manuscript, they also presented the results of the successful treatment of a metastatic triple-negative breast cancer (TNBC) patient with glucosodiene.

Question: Unfortunately, I could not find information about the cancer specificity of glucosodiene in any publications of the authors that I have access to. I only found evidence that glucosodiene was not toxic to a normal fibroblast cell line. (https://doi.org/10.21203/rs.3.rs-3357796/v1) Is glucosodiene specific for cancer cells? How can you prove it?

A recent manuscript documents the effectiveness of glucosodiene therapy in a female patient with metastatic triple-negative breast cancer. Both the patient’s history and the classification of cancer are well-documented.

Comment: The drug names have been written in capital letters. Look up the official spelling and correct it throughout the manuscript.

Comment: The patient's name is shown on the PET-CT figures. This should be removed for ethical reasons in order to protect the patient's privacy rights.

The text declares that the patient subjectively felt much better after the treatment: „Notable improvement was reported by the patient, particularly in bone pain intensity, along with regained mobility and functionality without experiencing fatigue.” The quality of life is one of the most important factors to consider when treating someone with cancer and during follow-up. The European Organisation for Research and Treatment of Cancer (EORTC) suggests the QLQ-C30 core questionnaire for patients with cancer. (*https://doi.org/10.1016/j.ejca.2022.10.026.)*

Comment: In order to be able to compare the changes in the quality of life resulting from various treatments, it would be advisable to use the questionnaire. Another possibility may be the usage of visual analogue scales (VAS) for pain, or a journal of medication usage for analgesics.

Questions in connection with treatment:

The manuscript states: „During the initial preparation phase, 24 to 48 hours before Glucosodiene treatment, the patient strictly adhered to a specialized diet, eliminating all sources of glucose, sugars, and carbohydrates. **On 7 February 2024**, the patient commenced treatment with Glucosodiene at a dosage of 100 milliliters orally daily, starting on the fifth day."

It is necessary to complete the description of the treatment.

Questions:

According to the manuscript, Glucosodiene therapy was only started on the 5th day. It is not clear whether the patient received treatment before. What diet did the patient follow, and what treatments did she receive during this time?

Comment:

The manuscript reports only the tumor progression-associated laboratory results. To assess the clinical condition, it would be important to know the patient's laboratory parameters, including inflammatory parameters, kidney and liver function. It is recommended to summarize the pre- and post-treatment laboratory parameters in a table.

The manuscript is interesting and may have great clinical importance. After answering the questions and comments, and correcting the language of the manuscript, I accept it for publication.