Novel hypothesis to cure cancer through therapeutic hypoglycemia

1. Increase ketone concentration (β-hydroxybutyrate & Acetoacetate). Either endogenous (ketogenic diet) and/or exogenous (ingestion of ketone salt/ester or IV administration)

2. Induce therapeutic hypoglycemia. There are a number of existing drugs that can decrease blood glucose. Metformin might be the first choice to slowly decrease blood glucose. For a more dramatic and acute decrease of blood glucose insulin can be used. Be aware, insulin will also decrease β-hydroxybutyrate. The sum of glucose and ketone bodies has to be at least 4 mmol/L to avoid brain damage.

3. Cancer starvation should lead cell necrosis or at least very depressed metabolism. Traditional therapy might be needed as a last step to wipe our any remains.

Support for the hypothesis

A) Ketones suppress cancer cell growth

B) Low glucose concentration will starve the cancer cells

C) The brain can survive on very low glucose concentrations in the presence of ketone bodies

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C) The brain will survive without glucose

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