

Cancer is an Infectious Disease as if Cancer is Metabolic Parasites: Evolution and Degeneration of Biology of Cancer Cells

By Simon Yu, MD

Dr. Tim Guilford, MD from California recently e-mailed me a Research Paper Review Article from Oncotarget titled, “*Antibiotics that target mitochondria effectively eradicate cancer stem cells, across multiple tumor types: Treating cancer like an infectious disease.*” This research paper, published in January 2015 came from, and was funded by, the University of Manchester, England. It proposed to treat cancer like an infectious disease by using FDA approved antibiotics as anti-cancer therapy, across multiple tumor types.

([http://www.impactjournals.com/oncotarget/index.php?journal=oncotarget&page=article&op=view&path\[\]=3174&path\[\]=6141](http://www.impactjournals.com/oncotarget/index.php?journal=oncotarget&page=article&op=view&path[]=3174&path[]=6141))

This research paper proposed a new strategy for the treatment of early cancerous lesions and advanced metastatic disease, via selective targeting of cancer stem cells, also known as tumor initiating cells, by utilizing well known antibiotics. The clinical practice of targeting genetic mutation and gene therapy has been disappointing, in that cancer control has been short lived, even when these gene targeted drugs are proven to be effective.

Based on their study, 4-5 different classes of FDA approved antibiotics can be used to eradicate cancer stem cells, in 12 different cancer cell lines, across 8 different tumor types, including breast, DCIS, ovarian, prostate, melanoma, and glioblastoma of the brain. Those classes of mitochondria-targeted antibiotics include: erythromycin-azithromycin, tetracycline-doxycycline, glycylicyclines, and an anti-parasitic drug-pyrvinium pamoate and chloramphenicol. (pyrvinium pamoate is not commercially available in the US and one may use pyrantel pamoate or combine with Ivermectin).

Last year, I wrote an article, Cancer is a Metabolic Disease as if Cancer is Metabolic Parasites: Thomas Seyfried, Ph.D. on Ketogenic Diet for Cancer Therapy. Dr. Tim Guilford coined the term cancer is metabolic parasites at the 8th St. Louis Alternative Integrative Medicine Conference in 2013. I wrote many articles in connection with hidden parasite infection, inflammation, and development of tumor cells. In fact, cancer cells behave very much like metabolic parasites and take energy away from the host. Sometime, tumors disappear with parasite medications. I suggest you read my articles, *Disappearance of the Universe as We Know It for WIMPS: What if Cancer Patient Doesn't Really Have Cancer?* and *Ivermectin Deficiency Syndrome*.

The crux of the hypothesis is based on understanding the Achilles's heel in Cancer Stem Cell's mitochondria. Because mitochondria evolved from bacteria that were originally engulfed by early eukaryotic-protozoa cells over one billion years ago (known as the endo-symbiotic theory of mitochondria evolution), cancer mitochondria are more susceptible to those classes of mitochondria-targeted antibiotics.

Mitochondrial biogenesis is required for the propagation of all cancer stem cells. Bacterial and cancer cell's mitochondrial large (50S) and small (30S) ribosomes are similar in size and function. They are susceptible to these antibiotics and can target mitochondrial biogenesis and eradicate cancer stem cells with manageable side-effects.

In essence, we can treat cancer, not based on genetic mutations, but based on a common global mitochondrial phenotypic property that is characteristic of cancer stem cells. This applies to many cancer

types. Importantly, azithromycin, tigecycline, and doxycycline are known to cross the blood-brain barrier, making the treatment of brain cancer with these antibiotics feasible.

Their hypothesis of mitochondrial biogenesis of cancer stem cells is similar to, if not consistent with, Otto Warburg's theory of cancer as a metabolic disease. This is because all cancer cells rely on glucose (glycolysis fermentation) as the predominant source of energy for their survival (the Warburg Effect). *Cancer is a Metabolic Disease* by Thomas Seyfried, Ph.D. published in 2012 eloquently explains this understanding and treats cancer based on Warburg Effects and Ketogenic Diet.

The eukaryotic protozoa cells evolved from our universal ancestor a billion years ago, incorporating endo-symbiotic bacteria as mitochondrial cellular power plants. Human cells are a product of the creation and biological evolution of the eukaryotic protozoa cells.

Parasites are by definition an animal. They are organisms that live on or in a host and get their food from, or at the expense of, their host. Parasites can be single cell protozoa to nematodes, flukes, or 30 foot long tapeworms.

Parasites have their own parasites. They bring their own micro-ecosystem of bacteria, virus, and fungus. Viruses, bacteria, fungus, and parasites have been evolving with us. They are a part of biological evolution and adapt to new toxic environmental changes faster than we can.

When our physical body is fed a faulty diet, including processed and genetically altered food, lives in toxic environments, lives with chronic infections, and when we are under constant attack with fear and toxic emotions, our body starts to degenerate. It may manifest as diabetes, heart problems, autoimmune disease, arthritis, or tumors as our body becomes more acidic and toxic.

Cancer is a form of the biological degeneration of our survival mechanism as our trillion cells are not living in harmony. It becomes metabolically similar to protozoal mitochondria, surviving on glycolysis fermentation, due to respiratory insufficiency of mitochondria as predicted by Otto Warburg.

Is it possible to reverse the process of cancerous conditions? It takes more than antibiotics or anti-parasitic medications to treat cancer. We need to treat the whole body on physical, emotional, and spiritual levels.

However, based on these well researched papers, it is worthwhile to start using natural and prescribed antibiotics, anti-fungal, and anti-parasitic medications, as a means to reduce the total burden of infections, as a part of cancer management programs by primary care physicians. It may have a secondary benefit of targeting the mitochondria of cancer stem cells. This research paper gives us a glimpse of hope and the possibility of a cure for cancer. I have seen this phenomenon and described it in my book, *Accidental Cure*.

Dr. Simon Yu, M.D. is a Board Certified Internist. He practices Internal Medicine with an emphasis on Alternative Medicine to use the best each has to offer. For more articles on alternative medicine as well as patient success stories, and Dr. Yu's revolutionary health book, *Accidental Cure: Extraordinary Medicine for Extraordinary Patients*, visit his website at www.PreventionAndHealing.com or call Prevention and Healing, Inc., 314-432-7802. You can also attend a free monthly presentation and discussion by Dr. Yu on Alternative Medicine at his office on the second Tuesday each month at 6:30 pm. Call to verify the date. Seating is limited, arrive early. Also, on the third Tuesday, we welcome you to attend our Free Monthly Prevention and Healing Support Group to support your healing process. See details on our website.



Simon Yu, M.D.
Prevention and Healing, Inc.
10908 Schuetz Road
St. Louis, MO 63146
314-432-7802
www.preventionandhealing.com

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