

Antiparasitic and Antifungal Medications Targeting Cancer Cells: Repurposing Drugs for Neglected Tropical Diseases for Cancer

By Simon Yu, MD and Frederick T. Guilford, MD

Is it possible to treat cancer as a neglected infectious disease? Is cancer a metabolic disease, with tumors growing – and metastases spreading - like a metabolic parasite? It may sound farfetched, but there is growing evidence to support this novel idea that can change the way we treat many types of cancers.

Researching this topic in depth with Frederick T. Guilford, MD, we published a comprehensive article, “[Antiparasitic and Antifungal Medications for Targeting Cancer Cells: Literature Review and Case Studies](#),” in the peer-reviewed journal, *Alternative Therapies in Health and Medicine*. The Abstract concludes, “The information offered in this review suggests scientists should think of cancer not only as a metabolic disease but also as a metabolic parasite and should consider using antiparasitic medications under a new understanding of the role of inflammation, infection, and mitochondrial dysfunction in the development of cancer cells.”

Before discussing our latest paper, I would like to review the concept of an integrated program of mass drug administration (also referred to as preventive chemotherapy) to treat wide scale parasitic infections, published in *The New England Journal of Medicine (NEJM)* June 2019, “[Collateral Benefits of Preventive Chemotherapy-Expanding the War on Neglected Tropical Diseases](#).”

The paper discusses how largescale administration of the antiparasitic medications albendazole, mebendazole, ivermectin, praziquantel and/or azithromycin in the early 2000’s - reaching over 1 billion people per year in Africa, Asia and Latin America for the original targets of parasitic diseases – had an unintended outcome of collateral health benefits. In addition to greatly reducing the incidence of parasitic diseases and disability and saving many lives on a mass scale, it provided a form of universal health coverage, including reducing transmission of malaria. A thought provoking idea!

Going back to our paper, chronic inflammation is a new catchphrase for the explanation of all chronic degenerative diseases, from asthma, arthritis, heart disease, autoimmune disease, and irritable bowel disease to cancer. Unrecognized low-grade infection is a main cause of inflammation from oncovirus, bacterial, fungal and lesser-known parasite infections that are driving forces in the cellular evolution and degeneration of cancer cells.

The observation that cancers, like parasites, feed off of our bodies without returning a benefit has been known for some time, and early in the 20th century, it was suggested that cancer is a parasite. The metabolism of some parasites shows a method of energy formation similar to that of cancer cells.

An approach using currently available medications that target both fungal and parasite metabolism appears to interfere with tumor growth and aggressiveness.

Due to the complexity of the behavior and biology of the cells, scientists’ primary focus should be on detection and elimination of sources of inflammation. Physicians should think of cancer not only as a metabolic disease but also as a metabolic parasite, and should also consider using antiparasitic and antifungal medications with the understanding of the role of inflammation, infection and mitochondrial dysfunction in the development of cancer cells.

For more on this line of thinking, see Thomas Seyfried, Ph.D. et al's article in *Carcinogenesis*, "[Cancer as a Metabolic Disease: Implications for Novel Therapeutics](#)," and R. Lamb et al's research paper in *Oncotarget* in 2015, "[Antibiotics that target mitochondria effectively eradicate cancer stem cells, across multiple tumor types: Targeting cancer like an infectious disease](#)."

In my practice, I have learned over the years that many unsuspected chronic illnesses – and some cancers – are caused by parasites. A few years ago, I wrote, "[Cancer is an Infectious Disease as if Cancer is Metabolic Parasites: Evolution and Degeneration of Biology of Cancer Cells](#)," reviewing Seyfried's work.

I have also learned that there is much research to be done on how our cells and our ancestral microbes share commonalities as well as differences in how they function in health and disease to this day – providing potential new avenues for treatment. One of my favorite phrases is, "We are not so different, you and I." It applies not only across people and cultures, but across cells, microorganisms, and all of God's creatures, great and small.

Our position in the paper is analogous to *NEJM*'s recent article, "Collateral Benefits of Preventive Chemotherapy-Expanding the War on Neglected Tropical Diseases," regarding the unintended outcome of extended collateral benefits of saving lives on a mass scale, if mainstream academic medicine is willing to embrace the concept of cancer as infectious diseases as if cancer is metabolic parasites.

In my cancer and complex chronic disease patients, I have been extensively using parasite medications (such as albendazole, mebendazole, ivermectin, and praziquantel), antibiotics and antifungal medications, and making referrals to biological dentists to eradicate hidden dental infections (especially Entamoeba and protozoal parasites). As patients recover healthy metabolic and immune functioning, it is not uncommon to witness the resolution of many chronic diseases, including asthma, autism, Lyme, persistent Lyme, psoriasis, neurologic disorders like MS and Parkinson's, seizures, and cancers.

I am not in a position to claim that cancer is an infectious disease. I think it is worth asking the question if it is possible to treat cancer as a neglected infectious disease, as if cancer is a metabolic parasite. Dr. Guilford and I are interested in collaborating and testing our hypothesis for Preventive Chemotherapy using parasite medications for cancer. Time to think differently!

Dr. Simon Yu, M.D. is a Board Certified Internist. He practices Internal Medicine with an emphasis on Integrative Medicine to use the best each has to offer. For more articles and information about integrative medicine, patient success stories, and Dr. Yu's new book, [Accidental Blow Up in Medicine: Battle Plan for Your Life](#), 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 on Integrative Medicine at his office on the second Tuesday each month at 6:30 pm. Call to verify the date. Seating is limited, arrive early.



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