

Parasitologists in New Orleans for Hunger Games: Parasites and Cancer Metabolism

By Simon Yu, MD

The 89th Annual Meeting of the American Society of Parasitologists was held in New Orleans, Louisiana in the summer of 2014. Most of the several hundred attendees were from universities around the United States and other countries. They were immunology/parasite/biology department teaching faculties including Masters and Ph.D. candidate students. Also, there were US government officials affiliated with the Department of Agriculture or environmental agencies. I did not see any private practice medical doctors.

Going to a parasitology conference is not the most exciting thing to do for the summer. But when the location of the conference was in New Orleans, I decided to go and check it out. If I wouldn't get much out of the conference, at least, I'd like to have a fine dining experience as an excuse to attend.

The conference was quite intense with over 200 presentations, mainly 15 minute sessions, during four days in multiple rooms. The main topics were Ecology, Life Cycles and Epidemiology, Immunology, Biochemistry and Physiology, Malaria Symposium, Host Parasite Interactions, Taxonomy, Systematics and Physiology, Chemotherapy, Drug Resistance and Vector Biology, Genetics and Molecular Biology.

Did I get any useful information to help my patients by attending this parasite conference? Most of the lectures were academic/basic science oriented with no direct clinical implications for medical doctors. However, there was some information that might be of interest: Our ancestry might have come from the evolution of the single cell Protozoa.

Parasites may not be what you think. Parasites are the dominant animal on the planet with the greatest bio-mass. The earliest parasites are called animal-like Protists: The Protozoa. About 1.5 billion years ago, the protozoa were unicellular and developed the colonial organization to form an advanced complex life.

Protozoa are considered the first carnivore. One of the lecturers pointed out that the original Hunger Games was started by lowly parasites. The simple Hunger Games of a single cell hunter swallowing its prey (phagocytosis) started with protozoa.

The most common pathogenic protozoa parasites include: *Entamoeba histolytica*, *Giardia lamblia*, *Dientamoeba fragilis*, malarial *Plasmodium*, *Leishmania*, *Trypanosoma* African sleeping sickness, *Toxoplasma gondii*, *Pneumocystis carinii*, and *Trichomonas vaginalis*.

Millions of years later, flatworms, flukes, and tapeworms became a new generation of carnivores. Hunters are mobile animals that attack, kill, and consume individual prey items one at a time. Because the current flukes and tapeworms are exclusively feeders on animal tissues, whether as predators, scavengers, or parasites, they can be considered the first advanced hunters. They prey on organisms ranging in size from bacteria to small animals (Zoology, Eighth Edition).

The parasitologists like to think of parasitology as the Queen of Biology: one part science and one part mythology. The parasites are closely linked between the mysteries of the origin of life to the current evolution of life. The parasites are at the top of the food chain over animal kingdoms including humans. Parasites are evolving and adapting fast to new hostile toxic environments.

One of the reasons I was attending this conference was to better understand the metabolism of parasites, especially protozoa, which, billions of years ago, were able to switch from anaerobic (without oxygen) metabolism to aerobic (oxygen) glycolysis fermentation metabolism. When normal cells degenerate to cancer cells, under various conditions, cancer cells evolve and have similar metabolisms to protozoa. Cancer cells can switch to aerobic glycolysis fermentation metabolism (the Warburg Effects).

Understanding how to switch aerobic/anaerobic metabolism and blocking a parasite's metabolism might provide crucial information about how to block cancer cells' metabolism to destroy them. I've written many articles describing clinical observations with spontaneous disappearance of tumor masses while I was treating my patients for suspected parasite problems with prescribed parasite medications. (I recommend you read my short article, *Ivermectin Deficiency Syndrome*).

I described the phenomenon as an "Accidental Cure" but it may not be an accident at all. Is it possible that there is such a strong correlation between cancer metabolism and parasite metabolism that, while treating parasites, it also blocks cancer metabolism? Is it possible that cancer is triggered by infections from parasites? Dr. Otto Warburg stated 70 years ago that there is only one cause of cancer: mitochondrial dysfunction with glycolysis (glucose) fermentation. For him, cancer is a metabolic disease. I have addressed that in my previous article, *Cancer is a Metabolic Disease as if Cancer is Metabolic Parasites*, based on Dr. Thomas Seyfried's book, *Cancer as a Metabolic Disease: On the Origin, Management, and Prevention of Cancer*.

Thirty years ago, the medical profession thought that "stress" caused bleeding peptic ulcers. The standard medical care was bland diet, stress control, anti-acids, and valium-like meds to calm the nerves. Dr. Barry Marshall from Australia proved that the cause of peptic ulcers was an infection caused by H. Pylori and not stress. He proved this by swallowing a cup full of H. Pylori and developed an acute ulcer within 10 days. For his discovery, he won a Nobel Prize in 2005. Peptic ulcers are now curable by antibiotics. Before his discovery of H. Pylori as the cause of peptic ulcers, 20,000 people died every year from misunderstanding the cause of ulcers.

It is time to think differently about cancer. Think of cancer as a primarily metabolic disease triggered by aging, infections from parasites, virus, bacteria, fungus, hypoxia, inflammation, radiation, carcinogens, toxic emotions, and inherited genetic mutations.

Cancer cells regress back to their original primordial anaerobic/aerobic glycolysis fermentative metabolism as a protective, survival mode like protozoa did 1.5 billion years ago. Think of cancer as metabolic parasites. Now, we can use specific parasite medications as a part of cancer therapy as cancer metabolic blockers. It is like using antibiotics to eradicate H. Pylori to treat peptic ulcers. My next article will be on a new generation of cancer metabolic blockers based on parasite medications developed by an unknown medical scientist.

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.



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