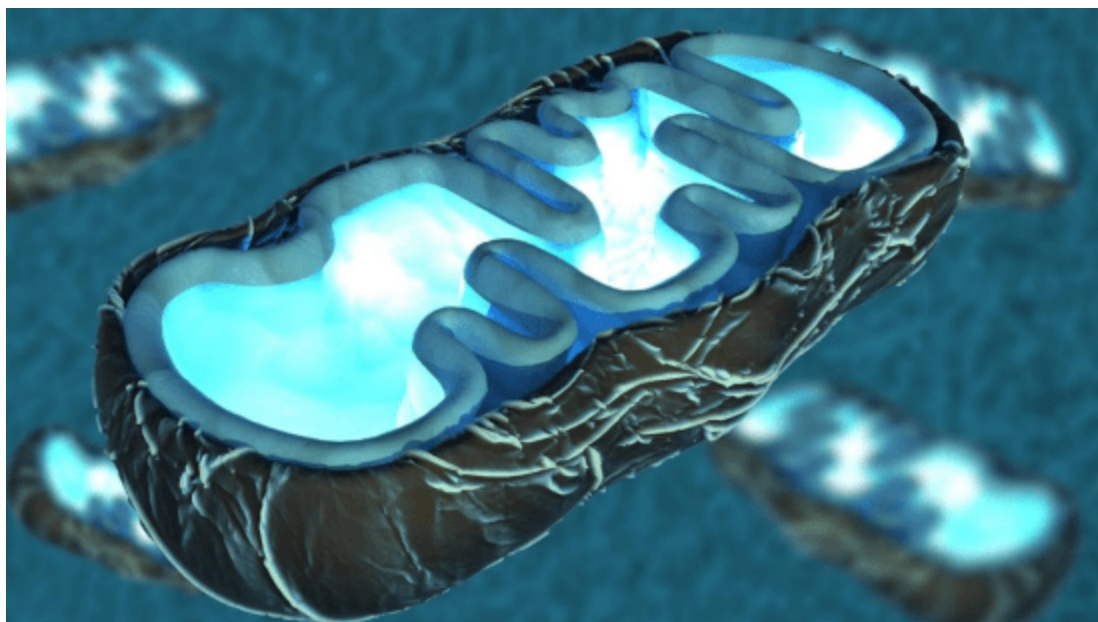


Mitochondria Health, Cancer, Chlorine Dioxide & Supporting Protocol

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Hitting the Bull's-Eye in Metastatic Cancers is the name of an interesting research paper published in the journal *Pharmaceuticals* in 2015. Its abstract reads: “Tumor metastases that impede the function of vital organs are a major cause of cancer-related mortality.

Mitochondrial oxidative stress induced by hypoxia, low nutrient levels, or other stresses, such as genotoxic events, act as key drivers of the malignant changes in primary tumors to enhance their progression to metastasis. Mitochondria activity is a major source of ROS production driving a pro-oxidative state in metastatic cancer cells.”

The prime cause of chronic diseases can ultimately be traced back to toxic exposure, microbial pathogens, nutritional deficiencies, low oxygen and even deficiencies in CO₂, unhealthy patterns of exercise and breathing, junk food, and emotional/mental imbalances that cause stress. That is the shortlist.

This is not another paper that recommends treatment plans that target oxidative stress with antioxidants. Instead, it champions oxidative therapies via increases in oxygen that saturate the mitochondria. ROS can damage or kill cells by oxidizing proteins, lipids, and nucleic acids at higher levels. Likewise, chlorine dioxide can denature proteins by oxidizing tyrosine, tryptophan, and cysteine.

Many have thought that antioxidants benefit high-risk patients by reducing the rate of ROS-induced mutations and delaying cancer initiation. However, dietary supplementation with antioxidants has generally proven ineffective or detrimental in clinical trials, not that they

don't have their *'crucial'* place even when employing pro-oxidants.

“High ROS levels limit cancer cell survival during certain windows of cancer initiation and progression. During these periods, dietary supplementation with antioxidants may promote cancer cell survival and cancer progression. This raises the possibility that rather than treating cancer patients with antioxidants, they should be treated with pro-oxidants that exacerbate oxidative stress or block metabolic adaptations that confer oxidative stress resistance.”[i]

This essay recognizes the beliefs of some brilliant people who assert that “The mainstream field of oxidative damage biology has been running fast in the wrong direction for more than 50 years,” wrote Dr. Robert K. Naviaux, who is a clinical geneticist in San Diego, California. The oxidative stress school holds that because ROS is the prime cause of disease, therapy should eliminate or normalize ROS and ROS-related cell damage. Naviaux insists ROS stress is not the cause but the effect of disease processes, and we should treat the cause or causes but not the effects.

So when we have oxidative stress caused by hypoxia, we do not treat the oxidative stress with antioxidants; we directly address the hypoxia. And the instant-acting medical agents that quickly do this are chlorine dioxide and one or all of the three bicarbonates.

Dr. Naviaux talks about oxidative shielding, which insists that the function of ROS is to protect the cell strengthen the cell against hostile environments, so we are not barking up the wrong tree when we promote the use of oxidants instead of antioxidants.

Chlorine Dioxide – Superior Mitochondrial Stimulator?

Because chlorine dioxide is not approved for use as a medicine, we will find no studies on its effect on cell biology and our mitochondria. However, we can study the effects of chlorine dioxide on plants. Fruits are living biological entities that perform many metabolic functions. Senescence is the period when chemical synthesizing pathways give way to degradative processes, leading to the aging and spoiling of fruits

In experiments, chlorine dioxide was closely associated with a delay in fruit senescence during storage. CIO₂ can restore ATP and the redox balance, reducing and delaying fruit senescence. Higher concentrations of CIO₂ (10 and 25mg/L) were more effective than the lower ones (5mg/L) in altering the redox balance and increasing energy production. It seems that what chlorine dioxide can do for plant mitochondria, it can do for human mitochondria too.

Oxygen is Chlorine Dioxide's Secret

Oxygen is the final receptor of electrons in the electron transport chain. Without oxygen, the electron transport chain becomes jammed with electrons. Thus, the Krebs cycle is heavily dependent on oxygen, deeming it an aerobic process. If we ram enough oxygen into the cells, we can force mitochondria to become active again and use the Krebs Cycle for energy in cancerous cells if they are not too far gone.

There are many ways to ram oxygen down our mitochondria's throats. One of the best and least expensive ways is with chlorine dioxide. **Chlorine dioxide" is a substance that provides oxygen to tissues and all body fluids, activating the mitochondria of cells.**

Curious Outlier, Producer of The Universal Antidote Documentary, puts it this way: "In a simple explanation that makes it easy to understand, that process of ramming oxygen to the mitochondria would be this. Imagine what happens when you jump-start a car with jumper cables. You are ramming electricity (electrons) into the car and turning the ignition switch on. The ignition switch of your body is always on until you're dead. So now you need to push the oxygen in, and the mitochondria will do the rest."

As you age, your mitochondrial function typically decreases, and this is a hallmark of both the aging process itself, as well as most chronic diseases.

This is important for cancer patients, but **everyone will enjoy the mitochondrial stimulation that chlorine dioxide provides as we age.** Mitochondria burn oxygen and provide energy for the body. Cells lacking oxygen or nutrients have to change their energy supply quickly to survive. Scientists from the Max Planck Institute for Biology of Ageing have now shown that mitochondria are reprogrammed under depleted oxygen and nutrients.

Everyone besides oncologists understands that the long-term lack of oxygen in cells is the key driver of cancer growth. Dr. Ying Xu, Regents-Georgia Research Alliance Eminent Scholar and professor of bioinformatics and computational biology research, was published in the *Journal of Molecular Cell Biology* in 2012. "Cancer drugs try to get to the root—at the molecular level—of a particular mutation, but cancer often bypasses it," Xu said. "So we think that possibly **genetic mutations may not be the main driver of cancer.**"

Magnesium Bicarbonate

When we combine chlorine dioxide with the ultimate mitochondrial cocktail, magnesium bicarbonate, expect sparks to fly along these cellular energy fabricators' inner and outer membranes.

Special Note: Though many experienced users of chlorine dioxide believe nothing, including food, should be taken with this miracle molecule ClO₂, know that rules can be stretched and not everything is antagonistic to chlorine dioxide. Magnesium and bicarbonates are the least

antagonistic supplements to chlorine dioxide.

However, there are many hours in the day to saturate the body and our mitochondria with all three of these substances. They don't need to be taken at the exact same time. Make time for some selenium and iodine if you want many benevolent nutritional medicines working powerfully for you simultaneously.

Mitochondria and Oxygen

Essentially the Krebs cycle (also known as the citric acid cycle) involves a series of enzymatic reactions that transform proteins (in the form of their constituent amino acids), fats (as their constituent fatty acids), and carbohydrates (as glucose) into intermediate substances. These intermediates are then passed into the electron transport chain. Finally, they undergo a further series of reactions – receiving and donating electrons down the chain – to produce energy in the form of ATP (adenosine triphosphate), CO₂, and water. **The presence of sufficient oxygen within the cells is essential to the success of this entire process**, as the term oxidation itself indicates.

Dr. Seeger and others found that **cancer cells utilize only between 5 and 50% of the oxygen of normal cells. The virulence of cancer cells is directly proportional to their loss of oxygen utilization, and with this to the degree of blockage of the respiratory chain.** In 1957 Seeger successfully transformed normal cells into cancer cells by introducing chemicals that blocked the respiratory chain within a few days.

Failure of oxygen energy metabolism is the single most important risk factor for chronic diseases, including viral infections.

As CO₂ is a hallmark of health, lactic acid is the hallmark of cancer. **When we flood the body with bicarbonates and chlorine dioxide, they inhibit lactic acid production, reverse acidification, and rescues circadian oscillation in cancer cells.** Conversely, when the acidity of hypoxic patches deep in tumors is neutralized, the worst hardest to treat cancer cells, difficult to defeat by even the most toxic means, become vulnerable.

Cells adapt to oxygen deficiency by switching their energy supply to glycolysis, in which sugar is fermented without oxygen. This may be necessary in old age, for example, as the cells in the body are often less supplied with oxygen and nutrients. There is no doubt that in cancer, the ability of cellular mitochondria to function normally becomes impaired, even in the presence of sufficient oxygen.

“It has been known for some time that cells reduce the number of mitochondria when they lack oxygen and switch to glycolysis,” explains Max Planck Director Thomas Langer. Initial studies of cancer metabolism in the early 1920s found that cancer cells were phenotypically characterized by aerobic glycolysis. These cells favor glucose uptake and lactate production.

The researchers examined cancer cells originating from patients with pancreatic tumors. These tumors grow under oxygen deficiency and are highly aggressive. Cancer cells migrate towards low oxygen levels.

Dr. Frank Shallenberger, author of "Bursting With Energy: The Breakthrough Method to Renew Youthful Energy and Restore Health," found that even asymptomatic people in their 30s had significantly decreased mitochondrial function. He calls this "early-onset mitochondrial dysfunction," and it's indicative of future health problems, even if everything seems good now.

The introduction of normal mitochondria into cancer cells restores mitochondrial function, inhibits cancer cell growth, and reverses chemoresistance. Also, the fusion of cancer cells with normal mitochondria results in increased ATP synthesis, oxygen consumption, and respiratory chain activities together with marked decreases in cancer growth, resistance to anticancer drugs, invasion, colony formation in soft agar, and « in vivo » tumor growth in nude mice.

The formula for human rocket fuel for the mitochondria includes:

Chlorine Dioxide

Full-spectrum light from the Sun/Vitamin D

Hydrogen

Oxygen

Magnesium Bicarbonate^[ii]

B Vitamins

Selenium^[iii]

Iodine

Strong doses of red light,

Near and far-infrared

CoQ10 & PQQ

Green Juices, Spirulina,

Chlorella

Intermittent Fasting

In my most recent essay on sodium bicarbonate, I make the case why bicarbonate should be used in every case of cancer because deep inside tumors, where oxygen deprivation and acidic conditions go hand in hand bicarbonate comes to the rescue. The evidence for a return to more normal conditions in these cells is marked by a return of CO₂ and a diminishing of lactic acid.

Special Note: Reestablishes the electron transport chain that has become dysfunctional in cancer, and this dysfunction draws Methylene Blue (MB) like a magnet to any dysfunctional cancer cells. Once inside the cancer cell, it helps to reestablish the electron transport chain and allows the cell to remove excess electrons that have been bottlenecked because of mitochondrial dysfunction.

The prime cause of cancer is the inability of cells to remove excess electrons. Once you reestablish the electron transport chain with MB and provide oxygen, the mitochondria “restart.” Technically, the mitochondria did not stop, but instead, they were using anaerobic glycolysis. Once the electron transport chain is reestablished, then normal aerobic glycolysis can begin again. That is not exactly what cancer is going to groove to.

[i] Cancer, Oxidative Stress, and Metastasis. Cold Spring Harb Symp Quant Biol. 2016;81:163-175. doi: 10.1101/sqb.2016.81.030791. Epub 2017 Jan 12.

[ii] CO₂) **protects the Mitochondria.** Magnesium and bicarbonate together work to combat the drop in energy within the mitochondria during constant bombardment from toxins. First, magnesium bicarbonate protects the natural organic and inorganic phosphate buffers in the cytoplasm of cells. Second, magnesium bicarbonate neutralizes the acid produced as a result of metabolic processes and ATP hydrolysis. This allows more ATP to be hydrolyzed or more energy to be made. Magnesium bicarbonate buffers the mitochondria in body cells from excess acid concentrations, which improves mitochondrial function and increases ATP.

[iii] According to Dr. Harold Foster, death rates in the USA for cancer are lower when blood selenium levels are high. One important study found that high blood levels of selenium are associated with a four- to fivefold decrease in the risk of prostate cancer. Scientists at Stanford University studied 52 men who had prostate cancer and compared them to 96 men who didn't.[3] One surprising finding was that blood levels of selenium generally decreased with age. It is well known that the risk of prostate cancer increases dramatically as one ages. Lipid Replacement Therapy (LRT) can restore and help maintain mitochondrial membrane function by replacing damaged mitochondrial membranes so the perfect form of selenium would have selenium bonded to a lipid. This form was developed by a surgeon in New York who used to inject it to treat cancer.

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