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Circumventing the Snake Oil: An Analysis of CAM Cancer Therapies

Chris Zeheralis

Abstract: Since the dawn of recorded human history, humans have searched for ailments to the diseases that plague our everyday lives. However, as each new cure or treatment was discovered, thousands of unsubstantiated and unproven therapies follow behind it. With the advancement of the internet and modern communication, these therapies have found their ways into the minds of consumers. The article highlights three common unproven therapies used by patients, as well as addressing the nuances of Complementary and Alternative Medicine (CAM).

According to the World Health Organization, cancer is the second leading cause of death globally, with a mortality rate surpassing 9.6 million in 2018.¹ This information is daunting for individuals recently diagnosed with cancer. As a result, most cancer patients will explore any and all available treatment options. For some individuals, their research into remedies leads to the discovery of non-regulated, unapproved treatment options. These options are referred to as “Complementary/Alternative Medicine” or CAM. Studies from the American Cancer Society and the Multinational Association of Supportive Care in Cancer (MASCC) found that up to 91% of patients claimed to have used at least one form of CAM.^{2,3} While not all forms of CAM are dangerous, many have the potential to cause serious patient harm and may impact quality of life. The resurgence of CAM therapies is heavily attributed to the rapid advancement of communication in the digital age. As a result of this attention, unsubstantiated and unregulated cancer therapies have found themselves gaining relevance and potentially putting more patients at risk of unnecessary harm.

Before delving into the dangers of alternative cancer therapy, it is imperative to create a distinction between alternative and complementary treatments. The term “alternative medicine” refers to treatments and therapies that are used in place of traditional, established, and approved therapies, while “complementary medicine” is intended for use alongside typical treatment to control symptoms or quality of life. Regarding cancer therapy, complementary medicine has demonstrated its benefit through therapies such as acupuncture, massage therapy, and biofeedback.⁴ In contrast, alternative cancer therapy is rarely, if ever, directly recommended as it delays initiation of approved medical intervention. While not all complementary cancer therapies have been found safe and efficacious, they satisfy a niche in treating the patient holistically. This is opposed to alternative therapies which have tended to cause patient harm either directly through their ingredients or indirectly through the encouragement of forgoing standard medical procedures.⁵

One of the most popular therapies within alternative cancer medicine is a product known as Miracle Mineral Supplement or Miracle Mineral Solution (MMS). MMS is sodium chlorite in water, but most products instruct users to mix MMS with citric acid-containing juices, such as orange or lemon juice. The citric acid induces a reaction which converts the sodium chlorite to chlorine dioxide, a potent bleaching agent. The product claims that, by drinking this solution of chlorine dioxide, diseases such as cancer can be removed from the body. Due to the popularity of this

therapy, the United States Food and Drug Administration (FDA) issued a press release in August 2019 warning consumers about the dangers of MMS, including extreme nausea, vomiting, as well as life-threatening liver failure and low blood pressure.⁶

In 2015, The Guardian reported on two other popular, plant-based therapies to treat cancer in place of traditional therapy: a topical paste used for treating skin cancers known as Black Salve and an oral product called Laetrile (commonly known as vitamin B17 or Amygdalin).⁷ Like MMS, these products are associated with dangerous side effects. When Laetrile enters the body, it is naturally broken down into cyanide and has been linked to cyanide poisoning. Based on multiple studies done on the efficacy of Laetrile, including one published in *The New England Journal of Medicine*, Laetrile lacks the scientific evidence to show any efficacy in treating human cancer.⁸ Black Salve is often applied topically for skin cancers, and acts locally by breaking down multiple layers of skin tissue. However Black Salve has not shown efficacy in destroying cancer cells and, as a study published in *Evidence-Based Complementary and Alternative Medicine* points out, seems to only damages healthy cells.^{9,10}

With the invention of sites such as Facebook and YouTube, the ability to spread questionable information to a large, global population may have reached its zenith. As social media sites have continued to become a more prevalent source of information for the general public, alternative therapies for diseases like cancer have become more accessible. With Facebook, thousands of groups exist across the website that claim to have cures for diseases such as HIV/AIDS, autism, and cancer. With YouTube, there are channels with thousands of subscribers which create videos sometimes reaching views in the millions which propagate unsubstantiated claims about beating diseases such as cancer. These channels and videos became a problem when they were promoted on larger, more popular videos via YouTube’s ad system.¹¹ Internet and social media sites like YouTube and Facebook have provided information regarding many alternative cancer treatments, but especially dangerous ones. The FDA’s report of MMS noted that social media and the internet specifically are heavily responsible for the rise in attention given to this therapy.⁶

Certain alternative therapies, like MMS, Black Salve, and Laetrile, are proven to be harmful, but this is not the only reason to avoid alternative treatment for cancer. The American Cancer Society

notes that alternative therapies encourage patients to avoid or discontinue traditional treatments. Even if products do not inherently harm the patient, the delay in traditional medical treatment increases the likelihood of mortality.⁴

Living with cancer is a nightmare for many patients, but it is the duty of healthcare providers to prevent exacerbation. Initially, alternative cancer therapy offers a glimpse of hope for those who may feel the odds are stacked against them, but in reality, this may only be an illusion of curative action. Certain complementary therapies, such as meditation and acupuncture, have demonstrated additional benefit, and healthcare providers should recommend these therapies that may improve symptom management. Patient education about the dangers of avoiding standard cancer therapy is the first and most important step to ensure therapies like MMS, Black Salve, and Laetrile cannot harm those who seek freedom from the chains of cancer.

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