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The Power of Herbs Against Cancer

Herbal Medicine: How Could We Possibly Synthesize Something That Heals Better Than Nature Itself?

Traditional Chinese herbal medicine has existed for thousands of years, making it one of the oldest known forms of healthcare. The fact that herbal medicine is still practiced today is a testament to its value as a form of medicine. Modern Chinese herbal medicine utilizes scientific research, clinical experience, and a comprehensive understanding of conventional therapies in their approach to the treatment of various disease processes. Utilizing herbal medicine is particularly valuable in the treatment of conditions for which western medicine still lacks consistent, beneficial therapy, such as cancer.

Regardless of animal species, cancer remains a major cause of death, accounting for about 50% of pet losses each year. Cancer occurs when the body's immune system cannot stop cells from replicating at an abnormally fast, disorderly pace and forming a mass known as a tumor. Western medical approaches to treatment consider the cancer as something separate from the animal that must be killed via chemotherapy or radiation. This inevitably kills the patient's healthy surrounding tissue as well and rarely leads to a long-term favorable prognosis. Chinese medical approaches to cancer consider this new growth as part of the animal, made by the same vital energy that generated other parts of the patient's body. Therefore, herbs and proper nutrition are used to strengthen the body so it has a better chance of fighting the cancer itself.

The treatment of cancer with Chinese herbs has been traced back to the second century BCE, when it was described by Huang Di and Nei jing in the book, "Yellow Emperor's Classic of Internal Medicine." Over the years, there has been extensive evidence supporting the variety of preventative, palliative, and curative effects that plants offer against cancer in both human and veterinary medicine. While many holistic practitioners have been utilizing herbal therapies as treatment or complimentary medicine in their oncology patients for years, the majority of veterinarians shy away from prescribing botanicals due to a lack of medical research compared to conventional drugs. It is only more recently that herbal medicine has begun to make its way into mainstream veterinary clinics thanks to a growing body of scientific research studies that demonstrate the mechanisms by which these herbal compounds work.

Unlike most conventional cancer treatments that deplete the animal's immune system, herbal therapies aim to boost the patient's immune system, supporting the animal's first line of defense against neoplasms. Beta glucans, found in the cell wall of seaweed, grain, mushrooms, and yeast, have been utilized for their potent immunomodulating properties. Beta glucans increase the numbers of natural killer T cells and upregulate phagocytosis by macrophages, neutrophils, and natural killer T cells. Glucans also support humoral immunity by stimulating secretion of cytokines such as IL-1, IL-6, TNF, and INF. Medicinal uses of mushrooms and seaweeds have a long history of use in Asia, but thanks to recent research on the mechanisms of beta glucans, western science is finally catching on to the immunoprotective benefits of phytochemicals. The growing scientific research on herbal medicine

makes an undeniable case for their use in healthcare that even the most closed-minded, conventional practitioners cannot afford to ignore. The FDA recognizes glucans as having a wide margin of safety with no known contraindications. Therefore, they have been researched enough to ensure that beta glucans are a safe addition to any cancer or immunodeficient treatment protocol.

Cannabinoids have been suspected to have anti-carcinogenic properties for quite some time, but research has been slowed by the controversy over marijuana's psychoactive effects. A recent study conducted at Texas A & M College of Veterinary Medicine demonstrated that cannabinoids induce ligand-dependent phosphatases leading to apoptosis of cancer cells. Unlike harsh chemotherapeutic agents, cannabinoids alleviate an animal's pain, stimulate appetite, and reduce inflammation while preventing metastatic disease. These properties alone have caught the attention of conventional practitioners, many of which are now open to including marijuana extracts along with chemotherapy to help relieve unwanted side effects.

While most chemotherapeutic agents have non-specific cytotoxic mechanisms, there are herbal therapies available that have been shown to be relatively specific to cancer cells while sparing healthy cells. Artemisinin is a compound extracted from the plant *Artemisia annua L.*, "sweet wormwood," which is also known as the Chinese herbal Qing Hao. Artemisinin contains two oxygen atoms linked together by an endoperoxide bridge, making this phytochemical react with iron molecules to form free radicals. This property makes it ideal for cancer treatments because neoplastic cells sequester relatively large amounts of iron, which react with artemisinin to cause rapid and extensive damage and death to cancer cells while sparing normal cells. Scientific research supports the effectiveness of Artemisinin against 55 cancer cell lines, finding it is comparable to conventional chemotherapeutic agents while far less toxic systemically.

Plants have a long history of use for the treatment of cancer and many of the conventional chemotherapy agents were derived from active ingredients found in herbs. These drugs are often not a direct isolate from plants, but instead are synthesized to mimic the chemical structure and function. This distinction is important because it highlights the disconnect between the natural healing benefits observed by whole plant products and the harsh, debilitating results often observed from treatment with synthetic pharmaceuticals. How could we possibly synthesize something that heals better than nature itself? The anti-carcinogenic properties of herbs are not merely molecular structures which we can artificially produce in a lab. These properties are a product of a complex, harmonious balance of various components that plants naturally produce in perfect proportions for their own vitality.

While the growing body of research behind plant derivatives provides the hard science necessary to widen the acceptance of herbal products in veterinary medicine, optimum wellness is better achieved by providing our animal patients with whole, organic botanicals that even the best scientist cannot mimic. Since whole plant products lack the financial appeal that drives major pharmaceutical companies to fund large medical research studies, the scientific backing may never be as strong as that of synthetic drugs. Despite this barrier in medical research, the thousands of years of use and lives saved makes botanical medicine a valuable modality for any open-minded veterinarian hoping to offer their patients the best health care available.

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