

CHAPTER 12

WHAT THE HORIZON HOLDS FOR MISTLETOE THERAPY . . . *and for an Expanding Integrative Approach to Cancer Care*

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*Special thanks to Dr. Steven Johnson
for his contributions to this chapter*

*“[One] who has health, has hope; and [one] who
has hope has everything.” —THOMAS CARLYLE*

What a journey! We have explored a brief history of oncology and immunotherapy, discussed humankind’s evolving relationship with mistletoe, and learned about some of the interactions and synergies between VAE and other therapeutic interventions. With over a century of use as an adjuvant (additional and supportive) cancer therapy, mistletoe therapy has been established as safe, affordable, and clearly effective for enhancing quality of life (QOL). I hope the immunological understanding, research findings, and patient case stories have heightened your curiosity about this special plant.

The most important question you can ask and answer for yourself right now is: *How and where can I connect with mistletoe as a patient, practitioner, or supporter of integrative cancer care?* In these next few

pages, I hope to provide some practical stepping stones. Initially, I'll speak solely to patients and loved ones who are in the midst of a cancer care journey right now. Later, I'll share opportunities for practitioners and integrative health philanthropists, too.

The challenges of accessing mistletoe

Today, many patients with cancer in Germany and Switzerland utilize mistletoe therapy at some point in their care. Mistletoe is offered as an accepted adjuvant therapy in some other European countries as well.¹ We hope to see mistletoe become a similar standard of care (SOC) therapy here in the United States. There are genuine challenges with accessing mistletoe in the U.S. right now, with ease of access varying from state to state. That's our reality. VAE is not yet covered by insurance—though its out-of-pocket cost pales in comparison to the conventional cancer care costs that often exceed insurance limits and are passed along to patients. Yes, there are challenges, and we need to take some time to state and face them head on. There are also clear solutions, both regarding physical access and financial support. Let's look at these challenges and their solutions, along with a vision for a better future for all of integrative oncology.

Financial Access: In terms of ballpark cost, mistletoe remains a relatively low-cost therapy at about \$150 to \$300 (U.S.) per month for SC injections and about \$5,000 to \$10,000 for aggressive IV or IT interventions (this varies broadly, depending on dosage and frequency of infusions). My colleagues and I urge any patient who struggles with covering this cost to connect with Believe Big (www.BelieveBig.org), a nonprofit organization focused specifically on providing wellness grants to cover mistletoe therapy. This organization has also funded a clinical research trial at Johns Hopkins Hospital² with hopes of bringing this therapy into the SOC realm.

When discussing the issue of cost with new mistletoe patients, the question that inevitably comes up is, "If this therapy is so effective, why isn't it covered by insurance?" In short, our current conventional

healthcare and insurance systems are incapable of covering personalized medical therapies like mistletoe.

Our U.S. insurance system, down to the DNA of how it codes office visits and drug-based treatments, has no room for a therapy that is successfully administered through hours-long conversations with the patient; deep knowledge of their physical, emotional, and spiritual goals; and significant real-time, response-based adjustments to dosage and even product brand. Both the current insurance system and FDA drug-approval process are set up to approve and apply patentable pharmaceutical drugs. They have *no categorical framework* to acknowledge the existence of highly effective non-drug therapies. Mistletoe has no insurance code, therefore it can't be covered. This lack of insurance coverage has nothing to do with whether VAE therapy is effective; rather it's due to a structural flaw in our healthcare and insurance system.^{3,4} Because of this flaw—prioritizing business efficiencies over humanized patient care—we now have a drug development system that fast-tracks the approval of new cancer drugs that have little evidence of life extension, while ignoring non-pharmaceutical treatments that have well-documented benefits for QOL and overall survival.⁵

Insurance-based healthcare does not incentivize holding the patient at the center of care decisions. Rather short-term financial streamlining takes precedent even though, over the long-term, patient-oriented care likely costs us all less. Mistletoe as an inherently personalized therapy, puts the patient back in the center of the equation. It walks upstream against the flow of the conventional insurance-based system in the U.S.—though mistletoe therapy does have some insurance-coverage in several European countries.

So yes, for now, patients in the U.S. must cover the cost of VAE therapy. Yet, it is a comparatively low-cost cancer care therapy. If cost is an issue, please connect with Believe Big. Also connect with anthroposophic, naturopathic, or integrative oncologists in your region. Ask if there are regional community funds that support cancer patients who want to access holistic care. On a longer timeline, consider sharing your

story with your senator and representatives. Insurance law and FDA regulations will not change without a groundswell of public concern.

Geographic Access: Your first step in connecting with mistletoe is, of course, finding a provider who offers it. My coauthors and I have created a multi-year educational initiative to increase awareness, access, and training regarding mistletoe therapy in the U.S. It will take time to see the fruit of these efforts. But it is possible for you to access this course-altering therapy from where you are right now. Realize it may take a little creativity and some initial travel.

Begin with reaching out to the Physicians' Association for Anthroposophic Medicine (PAAM) at www.AnthroposophicMedicine.org. There are currently AM physicians in 25 states and many other mistletoe therapy providers trained by PAAM. Email this organization to find out who offers VAE therapy in your state or nearby region. If there are no VAE therapy providers in your state, consider telemedicine options with an out-of-state provider. You will need to travel for your initial patient exam and to learn how to self-administer the subcutaneous (SC) injections. But, at that point, most patients can complete their own care at home, and follow-up questions and check-ups are addressed via telemedicine. Mistletoe providers are also happy to work with your local integrative practitioner to help with coordinating your care.

If you already have an integrative or holistic practitioner working with you, and they don't know about mistletoe, please share this book with them! Let them know that PAAM offers VAE therapy trainings to anthroposophic physicians, as well as MD, DO, ND, NP, and PA practitioners. This book is based on several core classes we offer during our VAE Therapy Practitioner Trainings. In recent years, a growing number of practitioners at these trainings are attending because their patients have asked them to learn about mistletoe. Right now, patient requests are driving the expansion of the list of U.S. mistletoe therapy practitioners.

Practitioner Awareness: There are challenges with awareness and, sometimes outright opposition stemming from misinformation

about efficacy and research. Even though a majority of the 45 NCI-designated cancer care centers in the U.S. claim to have an Integrative Medicine Department, those departments are rarely aware of well-vetted efficacious therapies that provide researched anti-cancer benefits. Instead, they tend to focus on spirit- and soul-care therapies only.^{6,7} These offerings are powerful—practices like yoga, meditation, and acupuncture—but they are only one component of integrative oncology.

There are so many more therapeutic offerings that provide well-studied and proven effects for the patient's physiology, biochemistry, immune system, and metabolic system. These Integrative Medicine Departments should not feel threatened by well-vetted therapies like mistletoe and others described in this book and in the books listed in our Resources section. As we've stated repeatedly, in clinical practice within true integrative oncology, we tend to combine mistletoe with conventional care to enhance SOC effects.

Every therapeutic option works better, and patient outcomes improve, when we're all working together and aware of each other's treatment strategies. Maintaining a wall between conventional and integrative therapies achieves only one outcome: patients feel caught in the middle. Indeed, in the U.S., about 80 percent of all patients with cancer seek some form of alternative care, and 30 to 40 percent report this choice to their conventional oncologists.⁸

Too often, patients feel they must pick one or the other. They choose herbal medicine instead of chemotherapy, or they pursue chemotherapy and radiation and do nothing on the nutritional and integrative side. People shouldn't have to make these either-or decisions. Those choices only hurt patients. As practitioners, we take our patients farther and achieve better results when we work together. When it comes to finding the best solution for their cancer care journey, patients need to be at the center. Patients need to feel comfortable assembling all their practitioners, their lab results, their unique risk factors, and their deeply personal goals, and then collaborating to create the treatment strategy that works best for them.

In addition to introducing you to one specific integrative therapy, my coauthors and I hope that this book has served as a broader invitation to more bridge-building dialogue. We hope the rich research and findings shared in these pages earn even more trust with conventional oncology teams and mainstream integrative departments. As the U.S. research base continues to grow for mistletoe and many other integrative oncological therapies, we hope that trust grows exponentially.

We are especially grateful for the growing, bridge-building organizations such as the Society for Integrative Oncology (SIO), which support stronger research and review of integrative care models in academic and mainstream medicine. Because of organizations like SIO, many conventional oncologists are awakening to the value of mistletoe and all of integrative oncology. SIO is shedding light on the strongest research findings and helping innovative practitioners find and connect with each other.

Mistletoe research horizons

At the time of publication, the Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins concluded its first-ever Phase I clinical trial of IV application of mistletoe therapy for Stage IV solid tumor patients. We are awaiting the results now. We hope publication of this trial will further establish the conventional-integrative bridge.⁹

We have also learned of other trials soon to matriculate in academic institutions around the U.S. This includes a SC VAE QOL breast cancer trial, a SC VAE glioblastoma trial, and another trial examining the effects of mistletoe injected into the portal vein for hepatocellular carcinoma (HCC – liver cancer). We hope these will be underway soon. Our book's website (www.TheMistletoeBook.com) maintains a list of published clinical studies where we post new results as soon as they are published. A European mistletoe educational website (www.mistletoe-therapy.org) also maintains a similar study summary list.

Over 150 studies have examined the effects of VAE therapy.¹⁰ It is one of the most researched integrative oncology treatments in the world. In contrast, a 2021 study reviewed 100 cancer pharmaceutical

drugs that have entered the market in the past 17 years. Less than 44 percent were properly evaluated to meet FDA standards. Yet all were fast-tracked into the patient population. The overall survival extension for these drugs was a mere 2.4 months.¹¹

Meanwhile, mistletoe has decades of contemporary research showing its benefits for QOL and life extension. Yet it remains remarkably unknown in conventional circles. We practitioners can and must do better in our awareness-building efforts. We owe it to our patients!

Calls for future lines of inquiry

As practitioners and authors, my colleagues and I hope to see more research on several major mistletoe frontiers. We hope to build more conventional oncology confidence through U.S.-based studies, particularly looking at these topics:

- *Host Tree Specific Effects:* In chapter 4, Dr. Hinderberger mentioned studies that looked at the benefits of certain VAE host trees for specific cancers. We do need more research looking at host tree specific effects in various cancer types.
- *Conventional Immunotherapies and VAE-Immunotherapy Combinations:* Up to 80 percent of patients do not respond well to cancer immunotherapies.¹² More research is needed to look at how VAE might enhance or interact with the new conventional immunotherapies.
- *Mistletoe Use in High-risk Cancer Environments:* As patients become more aware of BRCA, ATM, Lynch, CHEK2, GATA3, and other genetic predispositions, future studies could explore whether VAE therapy can be used in “previvor” scenarios, as a prophylactic therapy.

We would like to see more U.S.-led research focused on lesser-known mistletoe administration routes. This includes varied intratumoral (IT) applications (see chapter 10). We also know of one colleague, outside our coauthor group, who has developed an oral mistletoe capsule. All current research and findings regarding mistletoe benefits have been focused on SC, IV, intravesical (injection into

the bladder), and IT administration. To the best of our knowledge, most of the bio-actives in VAE (particularly the lectins) would break down in the digestive tract and would not enter the body via oral consumption. However, we don't know that for sure. Perhaps future studies will find otherwise, and we would be provided another valid administration route.

Yet another mistletoe research frontier involves its use for pets who have cancer. The Florida-based veterinarian, Dr. Loren Nations, is especially known for his successful use of mistletoe along with metabolic therapies (dietary change) for dogs and cats with cancer. As people explore more humanized and integrative care options for themselves, it was a matter of time before we wondered if these options could foster better outcomes for our four-legged companions. For now, Dr. Nations has numerous positive veterinary case stories. We hope to see funding materialize to support companion animal studies that might validate these methods.

A future vision for integrative oncology: Increasing access through a nonprofit integrative research hospital model

When conventional practitioners first learn about mistletoe, it is often a first introduction to truly personalized medicine. Throughout this book we've described the need to evaluate the person's constitution, their life history, and their current spiritual challenges, in addition to their tumor type and lab results. The whole person needs to be taken into consideration before even selecting the right mistletoe host tree. Then administration and dosage itself is personalized, based on the body's response. This is what it means to let the patient lead the care. It is not easy to shed the old insurance-code model and embrace such a responsive and deeply spiritual care philosophy. But it is invigorating and hopeful!

Right now, I am working with a diverse group of co-founders to develop the plans for an integrative residential hospital and research institute. This research and wellness model would provide a safe space where patients and practitioners can embrace this emerging paradigm

shift. Such wellness-care hospital models do not exist yet in the U.S., but they are not unheard of elsewhere. Our European coauthor, Dr. Marion Debus, practices at the Klinik Arlesheim in Switzerland. This is a hospital offering both in- and outpatient care, with chemotherapy alongside VAE, IV vitamin C, medical hyperthermia, and hyperbaric oxygen, among many other holistic patient care offerings. We know of similar examples in other European countries, Southeast Asia, South America, and Mexico. (In addition, PAAM is currently conducting a feasibility study for developing an innovative anthroposophic clinic in the U.S. modeled after those in Europe such as Klinik Arlesheim.)

In the U.S., we'd like to take that integrative hospital model one step further. Our nonprofit wellness-model hospital, the Metabolic Terrain Institute of Health, would include a research arm with in-house data analysis capabilities. Through high-tech big data analysis, we now have the capability to analyze multiple variables and multiple outcomes at once. We really aren't limited to the reductionist single-input single-outcome study model that makes it so challenging to research and establish efficacy for whole-plant extracts like mistletoe—or multiple-variable care strategies of any kind. We need solid research to examine the real-world effects of integrative care. We can do that now with large patient pools and big data analysis. I've already begun gathering data for a global project involving several thousand integrative cancer care patients, and the research hospital will exponentially expand our ability to draw solid statistical conclusions.

As a philanthropic nonprofit, we would also make integrative oncology available to all patients—much like the St. Jude's model of charitable care. Integrative access would expand broadly through philanthropic donations, research grants, wellness grants and, hopefully in the future, insurance coverage. We hope that someday this integrative research institute will replicate itself, that we would eventually have several such academic nonprofit hospitals worldwide, offering mistletoe along with a complete metabolic and integrative approach.

We need to pair this patient-centric paradigm shift with gold-standard clinical trials and real-world observational data analysis. Solid research can establish that this approach to medicine provides quantifiable positive outcomes. This is how we embody what my anthroposophic colleagues call “spiritual science.” This is how we build a better bridge.

Fully integrative: Translational medicine and multiple practices, all working together

I envision a hospital setting where genuinely integrated, patient-centered, and precision-driven approaches to changing cancer outcomes coexist under one roof. In such a space, before an individual undergoes a single treatment, whether for a first diagnosis or recurrence, they will have a complete biomedical work up, including fresh tissue or liquid blood biopsy, and comprehensive laboratory testing to qualify what is driving their process including metabolic, inflammatory, and toxic exposure risk factors. Each patient will have their epigenetics evaluated along with testing based on personal and family history. We'll do a deep dive into their emotional, spiritual, stress, and lifestyle histories—uncovering everything that might have contributed to the diagnosis and prognosis. All these inquiries will be provided in addition to more conventional imaging and cancer marker testing.

This residential hospital and research institute will be housed on a nature-dense campus that aims to restore health in a wellness-based, deeply nourishing, and spiritually supportive environment. This will be accomplished in a systems-based approach, where research and translational medicine move elegantly from laboratory bench, to bed, to greater community, and beyond.

Today, the World Health Organization forecasts a doubling of cancer diagnosis rates by 2030.¹³ Meanwhile, a majority of those living through cancer now, will experience a recurrence at some point in their lives.¹⁴ At a global scale, we have not approached this problem appropriately or successfully. I believe our greatest flaw is our *focus on*

the disease instead of focusing on building *the patient's foundational health*. We want to create a reproducible hospital model that provides actual healthcare—not solely disease management. We want to provide the empowerment for lifestyle change and the therapies that help patients become well again.

Taking the next step: Solutions Summary

We have some big hopes and goals for improving mistletoe access and access to integrative oncology in general. Maybe you're in a space where you can join us in embracing those visions. Maybe you're a patient focused solely on your own health right now. You can't think of major paradigm change in the medical world when you're simply trying to survive. I understand that. Really. As a 30-year thriver of Stage IV ovarian cancer, I know. Sometimes you need tiny steps broken down. Here are a few basics for each of our readers, wherever you're at.

Financial access

Connect with Believe Big: Visit www.BelieveBig.org and learn about their patient resources. Apply for a wellness grant.

Reach out locally: Ask your anthroposophic or holistic care provider about regional grants and local support for integrative oncology patients in need.

Geographic access

Consider telemedicine: If there are no VAE therapy providers in your state, research the possibility of telemedicine options with an out-of-state provider. Uriel Pharmacy (see Resources) keeps a list of mistletoe therapy practitioners. You may also reach out to PAAM (www.AnthroposophicMedicine.org) to find the mistletoe therapy practitioner nearest you. Take the first step and make a call.

Persuade your own physician: If you already have an integrative physician, functional medicine doctor, naturopathic doctor, or other provider who simply doesn't know about mistletoe, offer this book to them. Encourage them to contact

PAAM about our Mistletoe Therapy Trainings. These patient requests are driving a major wave of practitioner training right now!

Practitioner training

Contact PAAM: Ask to be notified about upcoming mistletoe therapy trainings (see Resources). Attend an in-person training and then join a mentoring cohort. Much of mistletoe administration nuances are learned in close contact with a mentor, while caring for the patients in your clinic right now.

Connect with SIO: The Society for Integrative Oncology (www.IntegrativeOnc.org) provides conferences, shares integrative oncology advances, and helps integrative practitioners connect with each other.

Survivor and thriver stories

Share your story: Practitioners and patients who have intriguing mistletoe therapy experiences are invited to share their stories. Visit this book's website at (www.TheMistletoeBook.com), where you may add your story to our collection. We hope these testimonials will encourage further research and collaboration.

Visionary supporters

Fund a trial: Support clinical trials and the research institute! We do not expect research dollars to funnel in from NIH or NCI. We welcome visionary supporters, angel investors, major donors, and other passionate individuals who are interested in supporting research. If you are interested, please contact the Metabolic Terrain Institute of Health at: info@MTIofHealth.org.

Political Action

Speak out: Contact your state representatives and senators to let them know your story. Insurance law and FDA regulations will not change without a groundswell of public concern.

Visit www.TheMistletoeBook.com for guidance on how to speak with your representatives—in a way that increases awareness but doesn't put your own rights at risk.

Understand your “right to try”: Patients, loved ones, practitioners, and integrative oncology supporters all benefit from educating themselves on the Right to Try Act. As FDA describes, “This law is another way for patients who have been diagnosed with life-threatening diseases or conditions who have tried all approved treatment options and who are unable to participate in a clinical trial to access certain unapproved treatments.”¹⁵ In my own practice, this law protects the choices of more than half of my patients.

The proceeds from this book go directly toward education and research. Funds will be split between PAAM's educational initiatives for practitioners and the Believe Big fundraising initiatives to support wellness grants for patients and the Phase II and III Johns Hopkins Clinical Trial. See the Resources section for more information about these organizations and the research institute.

There is a whole community of like-minded, health-oriented patients and practitioners, and we welcome you into this space. We would love to hear your own ideas about how you might like to get involved. It is our hope and our expectation to be the thought-leaders and vision-builders of the oncology world. We are building a world where cancer doesn't have to be a death sentence, where we can enhance outcomes, and where prevention is the best cure. Join us as we make this vision a reality.