Ozonized Glycerin Information

Table of Contents

What is Ozonized Glycerin?

Ozonated glycerin, a compound created by infusing medical-grade ozone into glycerin, is gaining attention in oncology and beyond for its unique therapeutic properties. This innovative substance combines the oxidative potential of ozone with glycerin's biocompatibility, offering a targeted, sustained-release treatment option for cancer and other conditions. With a half-life of up to 90 days—significantly longer than ozonated water's 40-minute half-life—ozonated glycerin enables prolonged delivery of ozone metabolites to affected tissues, potentially reducing the frequency of treatments while enhancing efficacy.

Key Researchers and Applications

This field has been spearheaded by Professor Yoshiharu Okamoto, DVM, PhD, of Tottori University in Japan. Professor Okamoto's research has revealed that ozonated glycerin selectively targets cancer cells while sparing healthy tissues. Its water-soluble nature allows rapid metabolism by the body, further enhancing its safety profile. In animal studies, injections around tumors have frequently resulted in significant regression. For example, in canine cancer models, large tumors shrank markedly after just one or two treatments.

Dr. James Bridge, a practicing veterinarian in Oregon, has expanded on this work in clinical settings, using ozonated glycerin to treat dogs and cats with various cancers. His successes include a 75% reduction in a massive splenic sarcoma in a Labrador after one injection, with complete remission following the second. He has also reported complete tumor resolution in fibrosarcoma cases in cats and significant improvements in canine lymphoma. These results suggest ozonated glycerin's broad-spectrum potential across cancer types.

Dr. Frank Shallenberger, MD, an integrative medicine pioneer in Carson City, Nevada, has applied similar protocols in human patients. Initial case reports include tumor size reductions in squamous cell carcinoma of the vagina and breast cancer-associated lymphadenopathy. While still early, these findings align with veterinary data, suggesting translational potential for human oncology.

Mechanisms of Action

The mechanism of action is largely unknown and still under research. The therapeutic effects of ozonated glycerin stem from its ability to deliver ozone metabolites directly to the tumor microenvironment. Cancer cells, with their elevated glucose demands, preferentially absorb glycerin, making it an effective vehicle for oxidative therapy. The resulting oxidative stress induces selective cytotoxicity in cancer cells, disrupting mitochondrial function and triggering apoptosis while leaving healthy tissues unaffected.

Additionally, ozonated glycerin appears to improve tumor oxygenation, a critical factor in overcoming therapy resistance. By enhancing oxygen levels within tumors, it may synergize with conventional treatments such as chemotherapy and radiotherapy, increasing their efficacy.

Practical Advantages

- **Prolonged Activity:** A 90-day half-life enables sustained ozone delivery, reducing the need for frequent dosing.
- **Targeted Action:** Cancer cells' affinity for glycerin ensures precise delivery of oxidative agents.
- **Broad Applicability:** Effective in various cancer types and conditions, from solid tumors to systemic inflammatory diseases.
- **Safety Profile:** Minimal side effects reported in studies, with selective action against cancer cells.

Future Directions

While the preliminary findings are promising, larger-scale studies and standardized protocols are essential to establish ozonated glycerin's efficacy and safety for widespread clinical use. Its unique properties, combined with early success in both veterinary and human medicine, position it as a compelling candidate for further exploration in oncology and integrative medicine.

Physicians interested in innovative therapies should monitor ongoing developments in ozonated glycerin research, as it may offer a new tool for improving outcomes in cancer care.

What is the current research available on ozonized glycerin?

- Ozonized glycerin (OG)-based cosmetic products lighten age spots on human facial skin
- Effects of ozonized glycerin on inflammation of mammary glands induced by intramammary lipopolysaccharide infusion in goats
- Evaluation of Oral Mucosa Irritation produced by Ozone Gel
- Comparative Study of Ozonated Glycerol and Macrogol Ointment on Bone Matrix Production by Human Osteosarcoma Cell Line Saos-2
- Antibiofilm, Anti-Inflammatory, and Regenerative Properties of a New Stable Ozone-Gel Formulation

List of clinical cases using ozonized glycerin

- Cancer and autoimmune conditions in dogs and cats - Jim Bridge, DVM
- Nebulized Treatment for Lungs
- Knee injection

Resources, presentations, and further information on ozonized glycerin

- Cancer and autoimmune conditions in dogs and cats - Jim Bridge, DVM
- Innovative Ozone-Based Cancer Treatments - Daniel Thomas, DO, MS
- Ozonized Glycerin Podcast with Jim Bridge, DVM and Robert Rowen, MD
- Ozone Gel has antibacterial, anti-inflammatory, and wound healing effects
- Investigation of Bactericidal and Fungicidal Effects of Stabilized Ozone Gel
- The Effect of Ozone on Collagen Type-1 and Inflammatory Cytokine Production in Human Gingival Fibroblasts
- New Ways to Reduce Facial Age Spots

Chemical Analysis

Ozonized Glycerin Chemical Properties:

I want to provide a PSA, as there seems to be a lot of questions surrounding the structure of ozonized glycerin.

I have spent a lot of time and resources discussing with world-class experts in chemistry and chemical analysis. Fortunately, I have established a network in academia, which has made access to these individuals and their analytical platforms. They have no bias toward ozonized glycerin, as they don't know what it's used for.

My first order of investigation is *to find out what is inside ozonized glycerin*. Thereafter, my plan is to conduct research on it. Research is time intensive and expensive, so don't expect anything for a while.

Initially, I thought this would be relatively simple to accomplish, as one of my organizations has advanced analytical platforms and expertise to translate the data. But it has proven to be a bit more complicated.

Nobody knows exactly what it is yet from a chemical perspective. This has nothing to do with its effectiveness. It has more to do with production of ozonized glycerin and our general understanding of it.

We know one thing. It is not likely to be glycerol tri-peroxide. This would not be good, as its molecular structure would indicate high instability and explosiveness. There are similar compounds used in making bombs.

The reality is that it is still under investigation. Just because ozone is infused into it does not inherently make it an ozone application and contain the same profile as ozone gas. When ozone is infused into something, it changes the chemical properties of the substance, it does not retain ozone... even though ozone is used in the process. So I am treating this as something "new" (even though the knowledge of its existence has been around for a long time) rather than an extension of ozone.

There is very little data on it. To my knowledge, nobody has run a chemical analysis on the substance. Substances with "unknowns" are challenging. Analytical platforms (like LC–MS) rely on reference libraries of known compounds. When a substance doesn't match any existing entries in those libraries, you cannot get immediate identification.

Instead, you need to determine molecular weights and generate potential molecular formulas, break the molecule into characteristic fragments, allowing you to piece together structural hints. We will likely need to patch together information from multiple platforms, costing well over $15,000, just for the analysis (which doesn't include the translation). I am currently assembling a team of specialized individuals for this. One gentleman has 30 years experience in identifying unknown compounds. Another is a director of a core facility at a prestigious university. I am in the process of assembling other members together as well.

Identifying unknowns is like assembling a puzzle, each instrument provides a different "clue." By compiling these clues and comparing them with known structural data, we can characterize the substance. However, it's time-intensive and requires specialized expertise. In addition, you have

to know exactly what you're looking for to even identify the appropriate platforms and organizations that provide it. You cannot go to a standard "chemical analysis" company because they typically run targeted assays (which is a simple search for already known compounds). The equipment used for untargeted analysis of unknown compounds often costs in excess of $1,000,000. Additionally, these are typically owned by large pharmaceutical companies (which don't care about providing it as a service) or within academic institutions. Accessing these platforms within academic institutions is challenging unless you know how to do it.

I want to reiterate: nobody knows exactly what this is to my knowledge. And I am skeptical of anyone who makes the claim they know what it is unless they can display the untargeted analysis they used. The only organization I have not discussed with yet is the research organization out of Japan. I am organizing a call with them. They have not published a chemical analysis but perhaps have one privately.

There is a terrific veterinarian who found much clinical success with animals. I have talked with him in regard to this. We plan on analyzing his ozonized glycerin that he sent me (as well as my own). His clinical understanding of it in animals is likely the best in the country to date. There is nobody better on their clinical understanding of ozonized glycerin in animals. And if you have clinical questions, talk to the clinician… not me.

Comparing ozone doses to ozonized glycerin is comparing apples and oranges - it is not the same. While a certain amount of ozone gas may be infused into the glycerin, that is not inherently representative of ozone gas. For example, saying there is 300,000mcg per mL of ozone infused into it can be accurate. Furthermore, this may coincidentally be a helpful metric in dosing for animals. However, that amount may have been infused into the glycerin, but it does not indicate the chemical properties of the glycerin itself, as the glycerin is modified by the ozone, not retaining the ozone molecule.

All that to say, I'm excited to be the first one to put this together.

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Curiosity is killing me. While I have to keep most of our plans private, we do plan to research the effects. With the expertise I've gained over the years, I feel exceptionally qualified for the task of characterizing ozonized glycerin and orchestrating its research… but more importantly I'm thrilled to do it.