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Traumeel: A Safe Alternative to Steroids for Cervical Facet Joint Injections Related to Whiplash Injuries

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Abstract

Pain remains the most common reason adults seek medical care. It interferes with activities of daily living, often restricts life and/or work, and is associated with decreased quality of life. It affects productivity, functionality, outcome, income, causes anxiety and depression. In 2019, it was estimated one fourth of the US populations suffered from chronic pain, with 7.4% of adults had high-impact chronic pain.

Our available choices for anti-inflammatories are restricted and not free of serious side effects. We remain a society that doesn't rely on natural remedies and believe in pharmacological choices.

Traumeel comes as a safe alternative. It is a blend of 14 botanical diluted plant-based homeopathic ingredients, made of biological and mineral extracts, designed to support healing, reduce inflammation, decrease pain and swelling, and treat a variety of musculoskeletal conditions. Traumeel has long been widely used in Europe, the US, and the entire world, and for decades.

Traditionally, its use in Europe has superseded its use in northern America, with no justification. The criteria for its use remain subjective, and dependent on the providers' experiences and preferences.

This review manuscript seeks to delineate its use as a safe alternative to steroids, in the treatment of cervical facetogenic pain, associated with whiplash injuries resulting from motor vehicle collisions. We will not delve into its numerous other indications or uses.

There is mounting evidence that Traumeel mechanisms of action on the inflammatory cascade, its multifaceted effects on pain and immunity, its efficacy, safety, and tolerability in treatment of musculoskeletal injuries, give it an advantage point over steroids or Non-Steroidal Anti-Inflammatory Drugs (NSAIDS).

Introduction

According to the National Institutes of Health, pain is the most common reason for seeking medical care [1]. It is also a common reason why people turn to complementary and integrative health approaches [1]. And according to a study conducted by the National Center for Health Statistics, published in November of 2024, the percentage of adults who had chronic pain in the past 3 months increased with age, from 12.3% among those ages 18–29 to 36.0% among those age 65 and older, with pain more common in minorities such as Hispanics and natives, and more in less urban regions [2].

In another striking finding, a study analyzed by the National Institutes of Health's National Center for Complementary and Integrative Health (NCCIH), and published in 2024 in JAMA, revealed a substantial increase in the overall use of complementary health approaches by American adults in pain, from 2002 to 2022 [3].

These statistics come to no surprise; more American seek alternatives and ask questions about what is injected in their body. Our clinic has witnessed the same increase in patient questions regarding the use of steroids and their side effects. Some asked for alternative and complementary substitutes.

Our estimated guess is that about twenty percent of patients request alternatives to steroid injections. Their request is based on prior experiences or reporting from family members or friends.

Traumeel comes in handy and is offered as a safe alternative to steroids for cervical facet joint injections (not offered for epidurals). Patient will be given concise literature about its indications and contraindications, and the updated FDA standing.

It is important to involve the patient is her/his decision making. Studies showed patient preferences have a direct impact on the outcome of an intervention via psychological factors or indirectly via patient adherence/compliance rates [4].

Traumeel History, Background, and Ingredients

Traumeel was developed by the German physician, Dr. Hans-Heinrich Reckeweg in the 1936. He saw a need to create a naturopathic homeopathic substance made of combined botanical and mineral ingredients to treat musculoskeletal issues and inflammation. He was a physician and homeopath based in Berlin, and had a vision for a natural medicine, that relieves more on the body's natural mechanisms, recognizing inflammation as an integral part of the healing process [5].

Dr. Reckeweg established Biologische Heilmittel Heel GmBH and started marketing his preparations. In 1979, Reckeweg relocated to Albuquerque NM, and developed over 1,000 different homeopathic preparations available through Heel GmbH and began manufacturing combination remedies in tablet form. In 1997, the Albuquerque company was renamed Heel USA Inc. In 2014, Heel USA became independent from the German Heel organization and operated under the name MediNatura Inc [6].

According to the website of Drugs.com [7], Traumeel is made of 2 very diluted components, mixed with normal saline and water; botanical and Mineral. The botanical components include Arnica montana, radix (mountain arnica, Calendula officinalis (marigold), Hamamelis virginiana (witch hazel), Millefolium (milfoil), Belladonna (deadly nightshade), Aconitum napellus (monkshood), Chamomilla (chamomile), Symphytum officinale (comfrey), Bellis perennis (daisy), Echinacea angustifolia (narrow-leafed cone flower), Echinacea purpurea (purple cone flower) and Hypericum perforatum (St. John's wort). Mineral ingredient is Hepar sulphuris calcareum (calcium sulfide) [7].

Proposed Mechanisms of Action

To better understands the multifaceted mechanisms of actions, we will divide the actions of Traumeel into 2 section, animal studies and human studies.

Mechanisms of Action in Animal Studies

In hind-paw injections in rats, a study [8] demonstrated Traumeel injections were associated with faster healing. It was found to reduced edema development after edema induction. The therapeutic effect of Traumeel was noted to have a significant decrease in systemic interleukin-6 production. The study concluded Traumeel sped up the healing process instead of blocking the development of edema from the beginning. The effects were noted as a synergistic interaction between different components of Traumeel reaching the outcome rather than the sum of active ingredients contained in Traumeel [8].

Another study [9] sought to study the effect of Traumeel on rats exposed to daily 15-min episodes of 90-dB SPL, it was shown daily noise inflammation caused increases in microvascular leakiness to albumin in the mesenteric microcirculation and caused mast cell degranulation. When rats received Traumeel, these effects were significantly reduced, compared to controls, pointing to its role in reduction of exudation and inflammation, and stabilizing immune cells [9].

In one of the largest pre-clinical studies of the effects of homeopathic remedies ever performed [10], involving 720 male Sprague Dawley rats, many homeopathic remedies were used, in different replicable modalities during the experiment, including using major ingredients of Traumeel (Arnica montana, Atropa belladonna, Hamamelis virginiana). Along with indomethacin, and compared to placebo, the study measured edema gauged using a water-based plethysmometer, before and at different times after edema induction. Traumeel appeared to consistently act by regulating the cascade of overall acute local inflammation and not as in NSAIDS, by interacting with a specific cell type, receptors, or biochemical mechanism [5, 10]. In this context, Traumeel was shown to fasten the healing mechanism rather than blocking edema onset genesis [5, 8].

In another major study published in 2021 [11], Traumeel's mechanism of action, in contrast to NSAIDs (suppression of formation of pro-inflammatory lipid mediators such as prostaglandins), Traumeel promoted the synthesis of Specialized Pro-Resolving Mediators (SPMs). This involves modulating the immune system, not directly inhibiting COX/LOX like NSAIDs; but by reducing pro-inflammatory cytokines such as IL-1β, TNF-α, IL-8, IL-6, immune cells, supporting SPMs (such as Lipoxins and resolvins) for inflammation resolution, stabilizing mast cells, decreasing microvascular leakage, and promoting normal cell function11. All of this resulted in reduction of swelling, promoted of healing, and improved function in models of injury [11].

Finally, in a recent study [12] published in Germany, in 2024, researchers sought to study the effects of Traumeel on inflammatory response on castrated stallions. Fifty-four stallions were recruited in the study. Half the stallions were treated pre-and postoperatively with either Flunixin-Meglumin (NSAIDS) or with Traumeel. Blood was collected at intervals of baseline (before), 24 hours, 48 hours, and 72 hours post-castrations, along with other markers. Wound healing and pain were assessed. The results demonstrated Traumeel had pro-resolving effects on the inflammation induced by surgery making it a valuable treatment for castration-induced inflammation. Also, to due to its GI and renal-sparing side effects, Traumeel was also a better alternative treatment option than NSAIDs [12].

Mechanism of Actions in Human Studies

An interesting study [13] sought to analyze the effects of Traumeel on the behavior of immune cells. It examined its vitro ability of resting and phytohemagglutinin (PHA), Phorbol Myristate Acetate (PMA), or TNF-α-activated human T cells, monocytes, and gut epithelial cells to secrete the prototypic pro-inflammatory mediators IL-1β, TNF-α and IL-8 over a period of 24-72 h. Traumeel was found to inhibit the secretion of all three agents in resting, as well as activated immune cells13. IL-β secretion was reduced by 70% (in both resting and activated cells); TNF-α secretion was reduced by up to 65 and 54%, and IL-8 secretion was reduced by 50% with statistically significant margins. The effect of anti-inflammation was inversely dose related. This finding suggests Traumeel does not inhibit immune cells functions by exerting a toxic effect. Traumeel did not influence T cell and monocyte proliferation [13].

An older study [14] recruited healthy individuals and collected whole blood cultures, since both antigen-triggered, and naïve T-cells can be cultured after being exposed to stimulation [14]. The purpose was to study its effect on lymphocytes. Surprisingly, it demonstrates that botanicals like Traumeel, stimulated lymphocytes to synthesize and secrete the cytokine TGF-β (transforming growth factor). Endogenous anti-inflammatory and homeostatic processes revolve around TGF-β, and hence Traumeel activated the immunological bystander reaction, Traumeel was able to stimulate a very specific subtype of regulatory lymphocytes (Th3 cells), that are usually present when the immune system reacts to endogenous structures [14].

Too delineate further roles of Traumeel in inflammatory cascade, we will briefly review this cascade and enumerate the role of Traumeel in these steps.

A key to recovery is inflammation, hence acute inflammation is beneficial, whereas chronic inflammation is detrimental [15, 24].

The initial and primary tissue damage initiates cellular release of cytokines (i.e., mediators of inflammation, cell proliferation, cell migration, and regeneration). This prompts the peripheral tissue cell types (eg, fibroblasts, myocytes, and endothelial cells) to respond to the damage by upregulating many proinflammatory proteins, such as IL-1, IL-6, tumor necrosis factor (TNF-α), and prostaglandin E2 [15, 24].

Cytokines can also be released by other cell types (eg, dendritic and mast cells, neurons, and Schwann cells). Those released during acute inflammation (eg, IL-1α, il-1β, and TNF-α) mediate the proliferation and maturation of macrophages, other mononuclear cells, and fibroblasts. The activated macrophages and other mononuclear cells produce even more cytokines (eg, il-1, il-6, and il-11), further stimulating inflammation [17, 18]. Traumeel inhibits the secretion of proinflammatory cytokines (i.e. IL-1β, IL-8, and TNF-α) in resting and activated mobile immune cells and resident gut epithelial cells in vitro [8]. Local treatment with Traumeel is also associated with a significant decrease of systemic IL-6 levels [8]. Traumeel may target epithelial and/or endothelial cells, macrophages, and T cells and decrease cytokine production8. These effects might be responsible for the reduction of fever, the inhibition of such cellular behavior as T-cell and macrophage activation, T and B-cell growth and differentiation, neutrophil migration, endothelium activation, and permeability [16]. IL-1 enhances the expression of cyclooxygenase-2, which is involved in the synthesis of prostanoids (e.g. prostaglandin E2), IL-1, and TNF-α; also serve as potent stimulators of osteoclast activity [16]. The phagocytic action of the activated inflammatory cells and osteoclasts can result in direct tissue damage [17]. This leads to the initiation of chronic inflammation [18].

Although Traumeel can stimulate phagocytosis and cell proliferation [19], it inhibits the IL-1 and TNF-α pathways [19]. This multitargeted action prevents the cascade of reinforced tissue damage from activated inflammatory cells; rather, it prompts these cells toward tissue repair. The immunomodulating and beneficial phagocytosis-stimulating properties of Traumeel were supported research on by human with periodontal disease and chronic generalized periodontitis [20, 21]. In addition to epithelial cells and leukocytes, other important cellular targets for Traumeel are the first responders to pathogens, toxins, and allergens; mast cells [20].

Human research with Traumeel supports its ant-inflammatory actions. In a study of patients with mild rheumatoid arthritis, the effect of 15 drops given three times per day for 14 days of Traumeel, on the number of $CD4^+$ T lymphocytes, (known to secrete transforming growth factor β, an important anti-inflammatory cytokine), was evaluated [22]. There was a moderate increase in $CD4^+$ T-lym-

phocyte numbers in most patients. Traumeel was postulated to exert anti-inflammatory effects via secretion of transforming growth factor β by these lymphocytes [22].

One group of researchers investigated the influence of Traumeel on extracellular matrix remodeling and wound healing properties in a co-culture model with hepatocytes and hepatic stellate cells in vitro [23].

Mechanisms of Action Based on Individual Ingredient in Traumeel

Traumeel is a simple but complex combination of very diluted mixtures of natural-occurring botanicals multiple ingredients, including plant extracts and minerals [7]. The characteristic individual features of each ingredient can contribute to Traumeel's biological activities [24].

We will briefly enlist these actions. For example, ultra-low–diluted Aconitum napellus can affect the liberation of transforming growth factor β from leukocytes of healthy donors in whole blood cultures [25]. Similar findings were discovered for Arnica montana, Calendula officinalis, Chamomilla recutita, Echinacea, sulphuric calcium, Hypericum perforatum, and Symphytum officinale [25].

Extracts of Arnica flowers have the capability of negatively affect the activation of the transcription factor nuclear factor κB and the nuclear factor of activated T cells. These proteins are responsible for the transcription of genes encoding various inflammatory mediators [26, 27]. In ultra-low doses, it was found that pretreatment with Arnica montana can block the action of histamine and blocking its increased vascular permeability28. Additionally, extracts of Atropa belladonna and Echinacea angustifolia can modulate the peritoneal inflammation reaction, in ultra-low doses, and enact a cytoprotective action on leukocytes [29].

Research evidence also suggests that Calendula officinalis can exert free radical scavenging and antioxidant capabilities [30]. In addition, this plant may possess some antiviral capabilities [31]. Tinctures of Calendula officinalis and Hypericum perforatum may facilitate the collagen maturation phase of wound healing [32]. Studies showed the extract of Calendula officinalis pointed to a potent wound-healing activity [33]. Other evidence indicates the anti-inflammatory and wound healing properties of Echinacea pallida [34].

Traumeel Compared to NSAIDS

It is rather a difficult task to compare a group of medication with another. Traumeel has many ingredients and the combination is what culminates in its effect on inflammation and pain. Similarly, NSAIDs comprise many medications and each has its own characteristics.

Nevertheless, there were published studies looking at comparing Traumeel to other specific NSAIDS. For an example, González DeVega et al. [35] published a randomized controlled, multicenter, blind study comparing the effects of Traumeel to Diclofenac in ankle pain and mobility [35]. This prospective trial comprised 449 physically active adults that sustained unilateral grade 1 or 2 ankle sprain within the past day. Participants were randomized and started on 2 g of Traumeel ointment (n = 152) or Traumeel gel (n = 150), or diclofenac gel (n = 147). All were administered topically to the ankle three times a day, for 2 weeks, with a 6-week follow up [35]. The results were astonishing: at day 7, the median percentage reductions in VAS pain score were 60.6%, 71.1% and 68.9% for the Traumeel ointment, Traumeel gel group, and Diclofenac gel group, respectively. At 6 weeks, the participants reported total relief of the ankle pain, and all went back to normal functioning [35].

In another observational, non-randomized study [36], comparing Traumeel with Diclofenac, 184 participants with epicondylitis, were monitored. The 2 groups had similar pain relief, and Traumeel was equivalent to NSAIDs on all evaluated variables, but it was significantly superior to NSAIDs on the variables of pain at rest, torsional joint mobility, and extensional joint mobility [36]. When asked to verbalize the outcome, with the terms "very good" or "good", Traumeel patients said 71.0%, versus 44.2% of patients receiving NSAIDs [36].

A randomized, triple-blinded, 'split-mouth' clinical trial, with a sample size of 20 was conducted, with patients diagnosed with moderate chronic generalized periodontitis [37]. With some undergoing surgery, participants were offered Ibuprofen 600 mg and Traumeel 600 mg, every 8 hours, for one day. Sutures were removed after one week. Patients were monitored for how many tablets they consumed and their pain scores. The results showed lower number of tablets consumed and lower pain perception in the Traumeel group compared to the Ibuprofen group. A better tissue response was also shown by Traumeel group as compared to the Ibuprofen group. Three of the patients had side effects with Ibuprofen [37].

Traumeel as an Alternative to Steroid in Cervical Facet Joint Injections

Steroids remain the backbone of potent anti-inflammatory injectables in interventional pain procedures.

Challenges arise when we encounter contraindications to the use of steroids in cervical facet joint for the treatment of whiplash injuries. The role of patient preference is important and essential: It does decide the outcome of the injections [4].

In cases of labile and uncontrolled glucose levels, in diabetic patients, and when co-existing whiplash neck pain is a daily bothersome complaint, when the patient demands treatment, your options for using steroids are very limited. Based on that, in our clinic, we have developed a very strict but flexible Traumeel indication protocol, that will avoid complications such as severe hyperglycemia or diabetic ketoacidosis.

It is important to be mindful of the latest statistics. According to CDC [38], some crude estimates of the year 2021, 38.4 million people of all ages, (equivalent to 11.6% of the U.S. population), had diabetes [38]. In addition, 8.7 million adults, aged 18 years or older, who met laboratory criteria for diabetes were not aware of or did not report having diabetes. The percentage of adults with diabetes increased with age, reaching 29.2% among those aged 65 years or older [38]. The worrisome statistic is that approximately 30% of adults with diabetes in the US, have uncontrolled glucose and is often indicated with HbA1C value above 9% [38].

With these statistics in mind, when faced with diabetes that is poorly controlled, we offer patients other options, such as Traumeel. We have preliminary unpublished data, collected on 65 patients, treated with Traumeel, injected in the lower cervical facet joints, under fluoroscopy. The outcome was surprisingly similar to the Dexamethasone group. Significantly less, were the side effects. Only one of the 65 patients injected with Traumeel, had a transient itching that disappeared within minutes, and with no interventions.

A study published in 2019 [40], a chart review case study exploring the effectiveness of Traumeel epidural injections as an alternative treatment in five patients with chronic low back pain, reported increasing functional capacity, and denied side effects [40]. They also reported an average of 50% less pain [40].

In addition to the erratic and unpredictable blood glucose level after steroid injections, our other contraindications for the use of steroids in co-existing psychiatric illnesses, especially when patients are taking medications. With steroids injections, patients with mental illness report a variety of unpredictable outcomes: mood swings, anxiety and 'palpitations', flat affect, hyperexcited and overstimulated, interrupted sleep, impulsive behavior, sleep issues, and sexual irregularities. We offer Traumeel to these patients and they often gladly accept it.

Other cases and criteria where we promote avoiding steroids in injections include prior negative encounter with any steroid, a "sensitive stomach" system, GI ulceration, GERD, advanced osteoporosis, advanced cataract, use of Levothyroxine (reduce the steroids), the concomitant use of diuretics or organ anti-rejection drugs, and easy predisposition to recurrent infections and bruising. We often request and obtain medical clearances from the providers that are more familiar with these patients.

Conclusion

The unique botanical cocktail of plants provides Traumeel with an amazing profile of safety. Its benign and intelligently combined composition allows the use of Traumeel in many pathologies of the musculoskeletal system. These herbs decrease pain, eradicate

swelling, relieve inflammation, promote healing, stops hemorrhages, relieves swelling, and relieves erythema. at the site of joint damage.

Traumeel is unique in that the combination of these plants works directly on the host cell, recruit the immune system and trigger auxiliary immunological reactions. Despite the impact of Traumeel on various immunological mechanisms, the available evidence from multiple clinical studies demonstrates this multicomponent combination medication is well tolerated and is safe. In the last few decades of its use, no major untoward events were reported in clinical practice suggesting an excellent safety profile.

It is unfortunate that it is a botanical mixture that is not approved by the FDA, but so are steroid injections for the treatment of spinal pain. Its universal widespread use lands its credibility as a safe product.

There is mounting evidence supporting the clinical efficacy of Traumeel, in patients with acute or chronic musculoskeletal problems, in trauma, in accidents, and in sport injuries. It's amazing safety profile, combined with its immunomodulatory, anti-inflammatory, and analgesic effects make it a very balanced remedy.

Further detailed and well-planned clinic research studies and trials in humans, are indicated to promote its use in multiple pain and inflammatory entities.

We owe it to our patients to provide them with safe, efficacious, and lasting homeopathic alternative and complementary therapies.

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