Methylene-Blue-Oral

PEPTIDES

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Methylene Blue (aka methylthioninium chloride) is a synthetic chemical compound that offers a broad variety of benefits including anti-aging effects, cognitive support, mood regulation, combating infectious diseases and cancer, and reducing mortality and morbidity. It is an antioxidant, anti-inflammatory, and has metabolic effects. Not only does it have an abundance of medical and even industrial applications, it is also on the World Health Organization's "List of Essential Medicines" for a basic health system. BENEFITS Facilitates electron transfer in the mitochondrial respiratory chain , which bypasses certain complex deficiencies to reduce oxidative stress. This ultimately improves mitochondrial function, promoting cellular energy production and potentially offering therapeutic benefits for neurodegenerative conditions. Acts as an antioxidant, meaning it can neutralize harmful free radicals 3 that can damage cells and contribute to aging and disease. By eradicating these free radicals, cells are protective from damage and oxidative stress. Modulates nitric oxide levels, which has positive implications for cardiovascular health and blood flow regulation. Offers neuroprotective effects by preserving nerve cells' viability and function, potentially reducing the risk of neurodegenerative disorders Enhances cognitive function by increasing blood flow to the brain and improving memory and attention. Methylene Blue's antimicrobial properties disrupt bacterial or microbial functions, making it an effective adjunct to traditional antimicrobial therapies Its lipophilic nature facilitates efficient blood-barrier penetration, with high brain concentration observed after dosing. Counteracts premature cellular senescence and aging Reduces markers of aging in cellular tissues Reduces amyloid-binding alcohol dehydrogenase (ABAD), which damage brain cells while increasing levels of estradiol Helps mitigate symptoms of hepatic encephalopathy (loss of brain function due to impaired removal of toxins from the blood due to liver damage) Works with macroautophagy4 (4 a fundamental cellular process that involves the degradation and recycling of cellular components)to safeguard brain cells from dying when they lack essential nutrients Is an antidote for cyanide or carbon monoxide poisoning Helps to treat urinary tract infections Reduces the death rate from those with low blood pressure after heart surgery (postoperative vasoplegia or vasoplegic syndrome) Septic shock management Drastically reduces harm and fatalities in children suffering from fluid and catecholamine therapy-resistant shock Increases mean arterial pressure, which decreases the patient's need for other medications, reduced length of hospital stay, and improved heart function and oxygenation in patients with septic shock. Can treat psychotic and mood disorders, enhance memory in fear-extinction training, and shows promise in short and long-term treatment of bipolar disorder; offers antidepressant and anxiolytic effects in bipolar treatment without inducing manic episodes. Enhances skin fibroblast proliferation and delayed cellular senescence. Application of Methylene Blue improves skin viability, wound healing, hydration, dermis thickness, and

altered gene expression of extracellular matrix proteins. Shows superior UVA and UVB absorption and protection against DNA damage For sufferers of chronic refractory idiopathic pruritas ani (IPA), a condition characterized by persistent itching and discomfort in the anal area. Patients who didn't respond to standard treatments were given intradermal injections of 1% methylene blue solution up to the dentate line, which is the boundary between the upper anal canal and the lower rectum and their symptoms resolved within 4 weeks without serious side effects and with an incredible success rate. Effective in treating conditions such as malaria, urinary tract infections, shock, and methemoglobinemia, stands as the singular known substance capable of restraining the excessive generation of reactive species and cytokines, suggesting its potential to treat COVID-19 and SARS CoV2 infections. Particularly effective antiviral for the management of flavivirus infections, particularly Zika virus. Methylene Blue is an anticancer agent and aids promotes apoptosis (cell death) in tumors. For patients suffering from oral mucositis, a complication of cancer therapy which causes severe pain impacting oral function, nutrition, and quality of life, potentially leading to treatment nonadherence and dose-limiting toxicity, rinsing with Methylene Blue allowed patients to achieve a significant reduction in pain within the first three treatments. Helps to treat methemoglobinemia. HOW IT WORKS Mitochondrial Function: Improves mitochondrial function, promotes cellular energy production, and provides therapeutic benefits for neurodegenerative conditions. Antioxidant Activity: Neutralizes harmful molecules (free radicals) that can damage cells and contribute to aging and disease. By eliminating those free radicals, cells are protected from oxidative stress. Nitric Oxide Regulation: Influences the regulation of nitric oxide, a molecule involved in various physiological processes, including blood vessel dilation. By modulating nitric oxide levels, it impacts cardiovascular health and blood flow regulation. Neuroprotection: Helps to preserve nerve cells' viability and function, and thus reduce the risk of neurodegenerative disorders. Cognitive Enhancement: Increases blood flow to the brain. Improves memory and attention. Antimicrobial Action: May disrupt bacterial or microbial functions, making it a potential adjunct to other antimicrobial therapies. POSSIBLE SIDE EFFECTS Mild nausea Blue/green urine Blue/green tongue/saliva Headache Insomnia Restlessness Sweating Dizziness Anxiety/jitteriness Tachycardia Elevated blood pressure Tremor Hyperreflexia Agitation Hemolytic anemia: Methylene Blue increases oxidative stress in red blood cells lacking NADPH protection Serotonin Syndrome: Inhibits monoamine oxidase (specificallly MAO-A). When combined with other drugs that increase serotonin (e.g. SSRIs, SNRIs, MAOIs, and tricyclic antidepressants) this can precipitate serotonin syndrome. Symptoms of Serotonin Syndrome include hyperthermia, agitation, increased reflexes, tremors, muscle rigidity, confusion or delirium, tachycardia, seizures, and blood pressure fluctuations. Hemolytic Anemia: can induce hemolytic anemia, particularly in individuals with glucose–6-phosphate dehydrogenase (G6PD) deficiency, a condition that makes red blood cells more susceptible to oxidative stress. Methemoglobinemia: Although it is used to treat this condition, overuse or inappropriate dosing can exacerbate the condition in certain situations, especially when the patient has other blood disorders. dosing leads to inadequate oxygenation Cardiovascular issues: Tachycardia (fast heart rate) and hypertension (high blood pressure) can occur, especially when high doses are used or in patients with pre-existing heart conditions. Neurotoxicity: Seizures, confusion, or psychosis may occur at very high doses, particularly when administered intravenously or as part of an experimental or off-label use for neuroprotection or cognitive enhancement. INTERACTIONS Serotonergic drugs: SSRIs, SNRIs, tricyclic antidepressants, and MAOIs can lead to serotonin

syndrome when combined w ith methylene blue Antidepressants: Because it inhibits MAO-A, combining it with MAO inhibitors (e.g. Phenelzine, Tranylcypromine) can increase the risk of hypertensive crises and serotonin syndrome Anticoagulants/Antiplatelet Drugs: Methylene blue may affect platelet aggregation and blood clotting. Caution is needed when taking anticoagulants like warfarin or heparin, as Methylene Blue may increase the risk of bleeding, although this effect is more commonly noted with intravenous administration. Sympathomimetic Drugs: Combining methylene blue with sympathomimetic drugs (ue with sympathomimetic drugs (e.g., epinephrine, dopamine, amphetamine, or pseudoephedrine) can increase the risk of hypertension and tachycardia due to its stimulating effects on the adrenergic system Cytochrome P450 Enzyme Inhibitors or Inducers: Methylene blue is metabolized by the liver enzyme CYP1A2, so drugs that either inhibit (e.g., ciprofloxacin) or induce (e.g., carbamazepine) this enzyme could affect its metabolism, leading to altered drug levels and effects. Other MAO Inhibitors: Combining methylene blue with other MAO inhibitors, even those in non-antidepressant categories (e.g., selegiline), can increase the risk of hypertensive crises and serotonin syndrome. Dantrolene: There are potential interactions between methylene blue and dantrolene, a drug used for malignant hyperthermia. Methylene blue can reduce the effectiveness of dantrolene in treating this rare but serious condition. Caffeine: Caffeine and methylene blue may have synergistic effects on nervous system stimulation, increasing the likelihood of nervousness, insomnia, or tachycardia. CONTRAINDICATIONS Do not use if you are pregnant of breastfeeding G6PD Deficiency: due to a risk of hemolytic anemia, a genetic disorder impairing red blood cells' ability to protect themselves from oxidative stress. Active or recent use of SSRI's, SNRI's, tricyclic antidepressants, or MAO inhibitors- concurrent use can result in serotonin syndrome. CYCLE LENGTH AND OTHER CONSIDERATIONS 4-8 week cycle followed by 2-4 week washout period Dose in the morning For maximum mitochondrial and cognitive benefits take lightly fasted DOSING Take 1 pill per day, daily