B12 the Antidote

Hydroxocobalamin toxin scavenger

Preclinical evaluation of injectable reduced hydroxocobalamin as an antidote to acute carbon monoxide poisoning.
www.ncbi.nlm.nih.gov/pubmed/26406423

Vitamin B12: the forgotten micronutrient for critical care.
www.ncbi.nlm.nih.gov/pubmed/20717016

Biochemical impedance on intracellular functions of vitamin B12 in chronic toxigenic mold exposures.
www.ncbi.nlm.nih.gov/m/pubmed/17982599/?i=6&from=/15606130/related

A scarlet pimpernel for the resolution of inflammation? The role of supra-therapeutic doses of cobalamin, in the treatment of systemic inflammatory response syndrome (SIRS), sepsis, severe sepsis, and septic or traumatic shock.
www.ncbi.nlm.nih.gov/pubmed/16545917

Antidotal treatment of cyanide poisoning.
www.ncbi.nlm.nih.gov/pubmed/12854870

Mechanistic studies on the reaction between cob(II)alamin and peroxynitrite: evidence for a dual role for cob(II)alamin as a scavenger of peroxynitrous acid and nitrogen dioxide.
www.ncbi.nlm.nih.gov/pubmed/21922568

High dose hydroxocobalamin administered after H2S exposure counteracts sulfide poisoning induced cardiac depression in sheep.
www.ncbi.nlm.nih.gov/pmc/articles/PMC4332828/

Hydroxocobalamin treatment of acute cyanide poisoning from apricot kernels.
www.ncbi.nlm.nih.gov/pubmed/21856998

Hydroxocobalamin for poisoning caused by ingestion of potassium cyanide: a case study
www.ncbi.nlm.nih.gov/pubmed/18554843

Inhibition of nitric oxide synthase by cobalamins and cobinamides.
www.ncbi.nlm.nih.gov/pubmed/19328848

Mold Toxin Reduction of Vitamin B12 and Neurological Function
www.anapsid.org/cnd/diffdx/mold2.html

A fatal case of acute hydrogen sulfide poisoning caused by hydrogen sulfide: hydroxocobalamin therapy for acute hydrogen sulfide poisoning.
www.ncbi.nlm.nih.gov/pubmed/21396232

Carbon monoxide exposure can deplete essential antioxidants and nutrients
www.chemicalinjury.net/HS/Carbon%20MonoxideCompleteDocAndFootnotes060411.pdf
B12 the Antidote - continued

Methylation - Glutathione

www.ncbi.nlm.nih.gov/pubmed/9587031

Glutathione revisited: a better scavenger than previously thought.
www.ncbi.nlm.nih.gov/pmc/articles/PMC4245892/

Glutathione depletion is accompanied by increased neuronal nitric oxide synthase activity.
http://link.springer.com/article/10.1007%2FBF02527669

Malondialdehyde, glutathione, glutathione peroxidase and homocysteine levels in type 2 diabetic patients with and without microalbuminuria.
www.ncbi.nlm.nih.gov/pubmed/15829117/

Low glutathione peroxidase activity levels in patients with vitiligo.
www.ncbi.nlm.nih.gov/pubmed/25775636

Evidence for accelerated rates of glutathione utilization and glutathione depletion in adolescents with poorly controlled type 1 diabetes.
www.ncbi.nlm.nih.gov/pubmed/15616028

The effect of oxidative stress on human red cells glutathione peroxidase, glutathione reductase level, and prevalence of anemia among diabetics.

Nitric Oxide and peroxynitrite

Elevated Nitric Oxide/Peroxynitrite Theory of Multiple Chemical Sensitivity: Central Role of N-Methyl-D-Aspartate Receptors in the Sensitivity Mechanism.
www.ncbi.nlm.nih.gov/pmc/articles/PMC1241647/pdf/ehp0111-001461.pdf

Biphasic modulation of NOS expression, protein and nitrite products by hydroxocobalamin underlies its protective effect in endotoxemic shock: downstream regulation of COX-2, IL1β,TNF-α, IL-6, and HMGB1 expression.
www.ncbi.nlm.nih.gov/pubmed/23781123

Decreased Brain Levels of Vitamin B12 in Aging, Autism and Schizophrenia.
www.ncbi.nlm.nih.gov/pubmed/26799654

Age-dependent decrease and alternative splicing of methionine synthase mRNA in human cerebral cortex and an accelerated decrease in autism.
www.ncbi.nlm.nih.gov/pubmed/23437274

Antioxidants as potential therapeutics for neuropsychiatric disorders.
www.ncbi.nlm.nih.gov/pubmed/23123357
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Nitric Oxide and peroxynitrite - continued

Increased nitric oxide radicals in postmortem brain from patients with schizophrenia.
www.ncbi.nlm.nih.gov/pubmed/15954198

Metabolic biomarkers of increased oxidative stress and impaired methylation capacity in children with autism1,2
http://ajcn.nutrition.org/content/80/6/1611.short

Nitric oxide pathways in Alzheimer’s disease and other neurodegenerative dementias.
www.ncbi.nlm.nih.gov/pubmed/15265275

The potential role of nitric oxide in multiple sclerosis.
www.ncbi.nlm.nih.gov/pubmed/9762676

Nitric oxide and reactive oxygen species in Parkinson’s disease.
www.ncbi.nlm.nih.gov/pubmed/12998735

The NO/ONOO- cycle as the etiological mechanism of tinnitus.
www.ncbi.nlm.nih.gov/pubmed/18229788

Neurodegenerative disorders: the role of peroxynitrite.
www.ncbi.nlm.nih.gov/pubmed/10525172

Increased oxidative stress and altered levels of nitric oxide and peroxynitrite in Tunisian patients with chronic obstructive pulmonary disease: correlation with disease severity and airflow obstruction.
www.ncbi.nlm.nih.gov/pubmed/25074430

Increased peroxynitrite activity in AIDS dementia complex: implications for the neuropathogenesis of HIV-1 infection.
www.ncbi.nlm.nih.gov/pubmed/10201964

Nitric Oxide and Thyroid Health
www.naturalendocrinesolutions.com/articles/nitric-oxide-thyroid-health/

Hydroxocobalamin, A Nitric Oxide Scavenger, in the Prophylaxis of Migraine: an Open, Pilot Study
www.researchgate.net/publication/11158928_Hydroxocobalamin_A_Nitric_Oxide_Scavenger_in_the_Prophylaxis_of_Migraine_an_Open_Pilot_Study

Nitric oxide production in meningococcal disease is directly related to disease severity.
www.ncbi.nlm.nih.gov/pubmed/10397227

NMDA sensitization and stimulation by peroxynitrite, nitric oxide, and organic solvents as the mechanism of chemical sensitivity in multiple chemical sensitivity
www.fasebj.org/content/16/11/1407

Common etiology of posttraumatic stress disorder, fibromyalgia, chronic fatigue syndrome and multiple chemical sensitivity via elevated nitric oxide/peroxynitrite.
www.sciencedirect.com/science/article/pii/S0306987701913258