# Treating Common Drug Induced Toxicities

After chemotherapy, or years of environmental toxic exposure, you will benefit from a detoxification regimen. Doing so will also nutrients to to be aborbed more effectively, and support health restoration. The following list are common conditions leading from drug induced nutrient deficiencies.

**Anemia:** Bone marrow damage takes 1-3 weeks to manifest after receiving a toxic dose of a chemo drug.

**Vitamin B12** given by intramuscular injection is the most effective way to replenish. **Testing for B12 levels during chemotherapy is not informative**. Because chemo oxidizes the B12, blood work cannot tell if its in the active or inactive form.-Supports bone marrow, white blood cell and platelet production. (prevent anemia)-Nerve repair (prevent neuropathy)-choose hydroxyl-cobalamin form of B12 if mercury is known to be high. (Verses methylcobalamin form, which can make mercury more toxic in the body)-Inject 2mg every chemo cycle.

**Iron:** Use with caution. Only replace with ferritin level on blood is lower than 30. **Herbs:** Astragalus, St Francis Deep Immune Combination, Ginseng, AHCC (active hexose correlated compound) – used as preventative to reduce chemo side effects and build blood stores.

# Loss of Smell (leading to loss of taste)

**Top remedies:** Ginkgo biloba extract, zinc citrate, and homeopathic Zincum metallicum or Mercurius solubilis. Heal the nerves: acetyl-L-carnitine 1,000mg 3 times dailyR-alpha lipoic acid 300mg 2-3 times dailyN-acetyl-cysteine 1,200mg twice daily2,000mcg methylcobalamin Vitamin B12 by intramuscular injection every week, or as needed.

# **Appetite** (Loss of appetite or anorexia)

**Top remedies:** Ginger, bitters, peppermint, thiamine, melatonin, reishi mushroom extract, and royal jelly. AcupunctureOther herbs include gentian, catnip, fennel, Acorus calamus and ginseng. Exercise Zinc citrate helps, taken at mealtime. Side note: bromelain used in high doses as an anti-inflammatory can inhibit appetite.



# Treating Common Drug Induced Toxicities Continued

# Chemo-Brain ("Brain fog")

**Top Nutrients:** Acetyl-L-carnitine. (ordinary L-carnitine does not cross the blood-brain barrier nearly as well.)- Carnitine works best with grape seed extract- R-alpha lipoic acid, B-complex and omega 3 oils.

**Top Agents:** gotu kola, bacopa, ginkgo biloba, rosemary, phosphatidylserine, PQQ, and B12 shots, exercise. Need cholesterol to repair, so speak to your doctor about stopping statin drugs.

### Constipation

Colon Hydrotherapy by a certified colon hydrotherapist.

Top Herbs: Wormwood, berberine.

**Top Agents:** Magnesium oxide or hydroxide, enemas, hydration, prunes, rhubarb, papayas. Fiber

- bran, prune juice taken 2-3 tablespoons daily, senna.

Acupuncture

### **Dehydration**

Treat aggressively with miso broth, mango juice and electrolyte drinks such as WHO formula - ½ tsp salt, ¾ tsp baking soda, up to 8 tsp sugar, and up to a cup of fruit juice to 1 litre water. Intravenous therapy is normal saline, 0.9% salt, with 5% glucose.

#### Diarrhea

BRAT diet (banana, rice, apple, toast).

Replace probiotic gut bacteria.

Replace electrolyte salts as well as water, with miso soup, broth, juices or an electrolyte drink – at least an 8 ounce glass per bowel movement.

The World Health Organization WHO approved electrolyte replacement formula is ½ tsp salt, ¾ tsp baking soda, a cup of fruit juice, sweetened to taste with the equivalent of up to 8 tsp sugar, in 1 litre of water.

**Intravenous rehydration:** normal saline, 0.9% salt, with 5% glucose. Bentonite clay can absorb toxins, which may be the cause the diarrhea in the first place. L-glutamine gives energy to heal the gut lining.

# Acupuncture



# Treating Common Drug Induced Toxicities Continued

**Fatigue** 

Exercise, and start prior to therapy.

Top agents to boost cellular energy:

- Acetyl-L-carnitine 500 to 1000mg three times daily
- Panax ginseng 2000+mg daily
- Royal jelly, Codonopsis, Reshi mushroom extract, vitamin B5.
- Omega 3 marine oils
- IV "myers cocktail" nutrition.
- Chlorella algae or wheat grass juice for chlorophyll.
- Top Herbs: rhodiola, nettles, astragalus, Siberian ginseng, Ashwagandha, shitake and cordyceps.
- REST during chemo days. Ask for help/support.

### **Hair Loss**

**Alopecia** is very common from chemotherapy. It cannot usually be prevented. Protect hair follicles (stall hair loss): Vitamin E, AHCC Acupuncture - to promote re-growth. Cooling devices or ice packs during chemo administration may protect the scalp.

# **Hand-Foot Syndrome:**

- Use topical aloe vera lotion.
- Take vitamin B6 as pyridoxal-5-phosphate 100 mg twice daily.
- Doses of 400 mg may reduce chemo efficacy, so beware. Homeopathic Apis mellifica can help reduce the histamine release

**Quercitin** - suppresses this at the source. The above formula can be compounded for topical use, applied to hands and feet as needed up to 3 times daily.

#### <u>Heart Damage</u>

**Top Herbs:** Convallaria majus, Crataegus oxycantha

**Top Agents:** CoQ10 300mg daily is a must! Vitamin e 400IU daily, Grape seed extract, Ginkgo

biloba, omega 3 oils, L-carnitine, Angelica, Lyceum and Ginseng.

#### **Kidney Damage**

Repair any organ damage with Coenzyme Q-10

**Top agents:** R-alpha lipoic acid, N-acetyl-cysteine, quercetin.

Support it with mixed anti-oxidants: Vitamin e (gamma tocopherol), astragalus and omega 3 oils.

The omega 3 fat docosahexaenoic acid DHA prevents cisplatin nephrotoxicity.



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Leukopenia (& Low White Blood Cells)

**Top Herbs:** St. Francis Herb Farm Deep Immune astragalus formula 3 capsules 2 times a day. Siberian ginseng, astragalus, Ligustrum, codonopsis, Lyceum, salix root, Scutellaria and royal jelly.

## **Top Agents:**

- Thymus and spleen glandular extracts.
- Eucalyptus oil inhalation
- Chlorella algae, up to 20 grams daily

**Botanicals consider:** Phytolacca (poke root) or Hydrastis (golden seal root) and Echinacea (cone flower).

## **Top Supplements:**

- Zinc, selenium, vitamin A,C,E and B6. An intramuscular injection of B12 will pump up neutrophils.
- Wash your hands often, especially after using the toilet and before eating.
- Exercise.
- The medication Neupogen can cause muscle pain, which can be treated with anti-histamines such as quercetin.
- Chronic low lymphocytes may indicate a gluten intolerance.

# **Mouth Sores (mucositis)**

- Green cabbage soups.
- Gastrazyme capsules.
- Vitamin E 800 IU
- L-Glutamine at up to 15 grams twice per day or 2 gm/m2, or 1 rounded teaspoon dissolved in warm water three times daily: swish for 1 minute, then swallow. stop L-glutamine as soon as chemo ends.

<u>Top Herbs:</u> Glycyrrhiza as DGL licorice extract, or glycerite extract, Chamomile tea, green tea with honeysuckle flower, marigold flower juice Calendula, Aloe Vera gel, Chlorophyll, slippery elm bark Ulmus fulva, vitamin E gel, h.

**Oral Rinse:** ½ teaspoon each of baking soda and salt in a glass of warm water - used several times a day.

- Consider baking soda rather than toothpaste.
- Manuka honey topically for prevention of mucositis for head and neck cancers.
- Marshmallow root 1tbsp. per cup, drink after overnight in the fridge.

#### Nail Damage

- Use oil of oregano topically for infection
- For repair: use chickweed cream and methylsulfonylmethane MSM topically.



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**Nausea** 

- Ginger is very good, as 2 capsules of root powder, as ginger tea, even as ginger ale.
- Eat often in small amounts, especially starches such as dry crackers, and drink plenty of fluids.
- Talk to doctor about Medical marijuana cannabis tetrahydrocannabinols THC does work well for some, if they can tolerate the other side effects L-citicoline can be used to reduce side effects of this herb.

<u>Nerve Injury</u> The most important single agent to prevent neuropathy is Vitamin B-12 given byintramuscular injection.

- Vitamin B1 thiamine 100 mg
- Activated Vitamin B6 (P-5-P) 250mg
- Prevent irreversible damage by chemo with L-glutamine, 3-10 grams 3 times a day.

**Cold packs** on the hands and feet during chemo infusions also limits nerve injury, by restricts blood flow. Acetyl-L-carnitine (CI-if seizures) & R-alpha lipoic acid IV-D-ALA 150-300 mg biweekly.

Pyrroloquinoline quinone (PQQ) – Found in vegetables and fermented foods, supplement 20 mg daily N-acetyl– cysteine 1,200 mg twice daily. Vitamin B1 – 160mg 2x/day, B-complex, calcium, melatonin, vitamin E and milk thistle extract.

#### **Platelets**

**Melatonin** - The pineal gland hormone melatonin helps regulate the production of platelets, which efficacy comparable to Neupogen, and it's a lot safer.

**Top herbs:** Licorice root, Ashwagahanda, and maitake mushroom extracts. High dose vitamin C can help recovery. Fresh raw pineapple and papaya leaf may help increase the platelet count. **Avoid** blood thinners: aspirin (ASA) and advil (ibuprofen), Ginkgo biloba, ginger, vitamin e OK under 600IU

#### **Vomiting**

- Drink electrolyte (minerals) replacement, make a cup of miso soup, bone broth.
- Electrolyte replacement: ½ tsp salt, ¾ tsp baking soda, and a cup of juice per litre of water.
- Acupuncture.

#### **Weight Loss**

- High EPA Fish Oil (fatty acid eicosapentaenoic acid) 2 capsules 2 times daily with food.
- High Dose Vitamin C can help stabilize weight.



Material derived and revised from : Mckinney, N. (2016). Naturopathic Oncology: An Encyclopedic Guide for Patients & Physicians (Third ed., pp. 96–103). Victoria, Canada: Liason Press.