

Clinical Pearls

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Nettles Seed and Reduced Renal Function and Cancer

Source: Mederi Foundation Roundtable

Think of nettles seed tincture or extract in patients with reduced renal function and cancer. The average dose of nettle seed tincture 1 tsp twice daily.

G6PD Deficiency and IV Vitamin C

It is necessary to rule out glucose-6-phosphate dehydrogenase (G6PD) deficiency before initiating intravenous ascorbate (vitamin C) therapy. Fava beans are commonly eaten in the Mediterranean countries, and people from those countries often eat them. They are a staple in Morocco. They are also called 'broad beans'. If you have ever eaten in a Moroccan restaurant you may have had them. If a solid history can be established of Fava bean intake without any reaction (fava beans cause hemolytic crisis in those with G6PD deficiency), the lab test for G6PD is unnecessary (contributed by Filomena Trindade MD). If the G6PD test is low or especially absent, the clinician is advised NOT to use IV Vitamin C.

Niacinamide and Triple Negative Breast Cancer

In women with triple negative breast cancer, consider adding niacinamide to oral program if patient is undergoing chemotherapy. This is a way to have PARP-1 inhibition, since the pharmaceutical drug for this effect is not yet approved.

Also for BRCA1 and 2 mutation carriers, whether breast or ovarian cancer--both are often helped by PARP inhibition. I use 3 twice daily (3 grams total dose).

Building Platelet Counts

To build platelet counts in patients whose platelet counts are low due to chemotherapy, think of red root (*Ceanothus americanus*) tincture and melatonin. Melatonin is also radiation protective. Dose of melatonin varies from .3 mg to 20 mg nightly. With higher doses people can have vivid dreams. If this occurs, try adding P5P form of Vitamin B6 to protocol, can also reduce dose in case of nightmares. Dose for red root tincture is 1 tsp three times daily.

Another useful product for platelet (and WBC) support is Beljanski's Real Build (RNA fragments from E.Coli). 80 mg a day was shown in a Cancer Treatment Centers of America clinical trial to clinically support both platelets and WBC counts. It seems likely that red root tincture and Real Build would be additive, as their mechanisms are likely different.

Lactoferrin Helps Bone Building

<http://onctalk.com/wp-content/uploads/2008/01/tlf-us-placebo-salvage-os-curves.jpg>

Think of lactoferrin in bone health issues. It helps bone building and reduces bone loss.

Lactoferrin may also be useful in nutritional support protocols for cancer, as it enhances endogenous dendritic cell maturation and activity, as well as helping to sequester iron away from tumor cells. A recombinant version of this protein is currently being developed as a cancer drug, and has shown improvements in response rate, progression free survival and overall survival, as well as a decrease in side effects from

chemotherapy in clinical trials of both lung and kidney cancer, at a dose of 1.5 grams bid.

Cancer and High HbA1c

Source: Mederi Foundation Clinical Roundtable

If HbA1c is high in a patient with cancer, your options include: low glycemic diet, with recommendation to go grain free, substituting the non-cereal grass seeds-- flax, quinoa, buckwheat, and amaranth, which are non-starchy, not hybridized nor GMO)

- Metformin
- Cinammon
- Berberine, 500 mg bid
- Juicing bitter melon (momordica)
- Dark chocolate (low glycemic)
- Devils club
- Fenugreek
- Exercise

Lumbrokinase for High Fibrinogen in Cancer

Source: Mederi Foundation Roundtable

Hyperinsulinemia may be driving up fibrinogen. Therefore, monitor this test and treat as needed. Otherwise, suggested treatment for high fibrinogen in cancer includes lumbrokinase and bromelain. Inflammation is another cause of increased fibrinogen. Inflammation and hyperinsulinemia are co-travelers.

Helping Patients with Non Small Cell Lung Cancer

Non Small Cell Lung Cancer often has a poor prognosis. What follows are results of evidence based research in how we can help our patients with this condition:

1. Coriolus Versicolor (Turkey Tail) in non-small cell lung cancer

Hayakawa K, Mitsuhashi N, Saito Y, Nakayama Y, Furuta M, Nakamoto S, Kawashima M, Niibe H. Effect of Krestin as adjuvant treatment following radical radiotherapy in non-small cell lung cancer patients. *Cancer Detect Prev.* 1997;21(1):71-7. PubMed PMID: 9043766.

Kawamura N, Jingu K, Miyoshi M, Ohmagari J, Masuda K. Long-term mild chemioimmunotherapy after radiotherapy for non-resectable non-small cell lung cancer. *J J Lung Cancer* 1990: 903-11.

Hiyoshi Y, Ogawa Y, Imajo Y. Clinical effect of concomitant use of non-specific immunopotentiator on 172 cases of primary lung cancer (Stage III, IV) treated with radiation combined with chemotherapy. *J Jpn Soc Cancer Chemother.* 1981: 1384-96.

Katoh R, Takenoshiita S, Yajima Y, Mogi A, Nagamachi Y. Effects on host of VP therapy with PSK on lung cancer. *Biother* 1998: 667-9.

Tsang KW, Lam CL, Yan C, Mak JC, Ooi GC, Ho JC, Lam B, Man R, Sham JS, Lam WK. Coriolus versicolor polysaccharide peptide slows progression of advanced non-small cell lung cancer. *Respir Med.* 2003: 618-24.

2. Green Tea Extract

Laurie SA, Miller VA, Grant SC, Kris MG, Ng KK. Phase I study of green tea extract in patients with advanced lung cancer. *Cancer Chemother Pharmacol.* 2005 Jan;55(1):33-8. PubMed PMID: 15309507.

Pisters KM, Newman RA, Coldman B, Shin DM, Khuri FR, Hong WK, Glisson BS, Lee JS. Phase I trial of oral green tea extract in adult patients with solid tumors. *J Clin Oncol.* 2001 Mar 15;19(6):1830-8. PubMed PMID: 11251015.

3. Lactoferrin

Kelly RJ, Giaccone G. The role of talactoferrin alpha in the treatment of non-small cell lung cancer. *Expert Opin Biol Ther.* 2010 Sep;10(9):1379-86. PubMed PMID: 20684737.

S, Patil S, Ismail PM, Wang Y, Varadhachary A, Zhu J, Malik R. Randomized, double-blind, placebo-controlled phase II study of single-agent oral talactoferrin in patients with locally advanced or metastatic non-small-cell lung cancer that progressed after chemotherapy. *J Clin Oncol.* 2011 Nov 1;29(31): 4129-36. PubMed PMID: 21969509.

4. Cachexia with lung cancer--

This is an intervention that often helps stabilize this is high dose fish oil (15-20 grams EPA+DHA, citrus flavored mixed in non-fat organic cottage cheese). 2 tablespoons of a citrus flavored fish oil that is 60% EPA+DHA will achieve this amount. Adding chunk pineapple improves taste for some people.

Ross PJ, Ashley S, Norton A, Priest K, Waters JS, Eisen T, Smith IE, O'Brien ME. Do patients with weight loss have a worse outcome when undergoing chemotherapy for lung cancers? *Br J Cancer.* 2004 May 17;90(10):1905-11. PubMed PMID: 15138470

Evans WJ, Morley JE, Argilés J, Bales C, Baracos V, Guttridge D, Jatoi A, Kalantar-Zadeh K, Lochs H, Mantovani G, Marks D, Mitch WE, Muscaritoli M, Najand A, Ponikowski P, Rossi Fanelli F, Schambelan M, Schols A, Schuster M, Thomas D, Wolfe R, Anker SD. Cachexia: a new definition. *Clin Nutr.* 2008 Dec;27(6):793-9. PubMed PMID: 18718696.

van der Meij BS, Langius JA, Smit EF, Spreeuwenberg MD, von Blomberg BM, Heijboer AC, Paul MA, van Leeuwen PA. Oral nutritional supplements containing (n-3) polyunsaturated fatty acids affect the nutritional status of patients with stage III non-small cell lung cancer during multimodality treatment. *J Nutr.* 2010 Oct;140(10):1774-80. PubMed PMID: 20739445.

Murphy RA, Mourtzakis M, Chu QS, Baracos VE, Reiman T, Mazurak VC. Nutritional intervention with fish oil provides a benefit over standard of care for weight and skeletal muscle mass in patients with nonsmall cell lung cancer receiving chemotherapy. *Cancer.* 2011 Apr 15;117(8):1775-82. PubMed PMID: 21360698.

van der Meij BS, Langius JA, Spreeuwenberg MD, Smit EF, Paul MA, Smit EF, van Leeuwen PA. Oral nutritional supplements containing n-3 polyunsaturated fatty acids affect quality of life and functional status in lung cancer patients during multimodality treatment: an RCT. *Eur J Clin Nutr.* 2012 Mar;66(3):399-404. PubMed PMID: 22234041

DIM In Ovarian Cancer

Consider using DIM (diindolylmethane) in ovarian cancer. DIM is a major phytochemical present in cruciferous vegetables. JAK2 is an important therapeutic target in ovarian cancer. Its activation has been observed in a large fraction of human ovarian tumors compared with normal ovarian tissues. Previously published results showed that administration of 3 mg DIM/day substantially retarded the growth of ovarian tumors in vivo. (*BMC Med.* 2012; 10:9)

From: *Drug Discoveries & Therapeutics.* 2012; 6(2):94-101. Regulation of Janus-activated kinase-2 (JAK2) by diindolylmethane in ovarian cancer in vitro and in vivo.

Elevation of cAMP Levels by Forskolin Induces Death of Multiple Myeloma Cells

Consider using Forskolin, from *Coleus Forskolii*, in your patients with multiple myeloma, in a comprehensive individualized program. Stimulation of the cAMP-signaling pathway not only kills human and murine multiple myeloma cells in vitro, but it also reduces in vivo growth of multiple myeloma cells in a mouse model. Elevation of cAMP kills the cells via classical apoptotic mechanisms involving mitochondrial membrane-changes and activation of caspases; supports the potential use of cAMP elevating agents as targets against multiple myeloma.

Follin-Arbelet et al. Cyclic AMP induces apoptosis in multiple myeloma cells and inhibits tumor development in a mouse myeloma model. *BMC Cancer.* 2011; 11:301 <http://www.biomedcentral.com/1471-2407/11/301>.

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