American Institute of Integrative Oncology
RESEARCH & EDUCATION

Foundations of Integrative Oncology
COURSE

GRAND ROUNDS CALL
With Dr. Nalini Chilkov
October 11th, 2017

Second Wednesday of Every Month
5:30 PM Pacific / 6:30 PM Mountain / 7:30 PM Central / 8:30 PM Eastern

Clinical Pearl: Huang Qin Tang - 1800 Year Old Chinese Formula Meets Modern Oncology

Clinical Pearl:

PHY 906 Huang Qin Tang
- Scute and Licorice Combination
- 黃芩湯
- Scutellaria Decoction
- Huang-Qin-Tang (HQT)

A decoction of a mixture of the four herbs - 1-3 grams 2-4x/day
- 3 Scutellaria baicalensis Rt. (Huang Qin)
- 2 Glycyrrhiza uralensis Licorice Rt (Gan Cao)
- 2 Paeonia lactiflora White Peony Rt (Bai Shao)
- 2 Ziziphus jujuba Red Date (Da Zao)

Cancer-related Diarrhea (chemotherapy patients 50-90%) - Huang Qin Tang: **[7]**
- **Restores the intestinal epithelium** by promoting the regeneration of intestinal progenitor or stem cells and several Wnt signaling components.
- **Anti-inflammatory effects**: decreases the infiltration of neutrophils or macrophages
- **Decreases TNFa-tumor necrosis factor-alpha** expression in the intestine, and proinflammatory cytokine concentrations in plasma.
- **Inhibits NFkB nuclear factor kappaB, COX-2 cyclooxygenase-2, and inducible nitric oxide synthase**

Radiation-induced Diarrhea (acute radiation enteritis - up to 70% patients)- Huang Qin Tang: **[11]**
- Decreased the toxicity of fractionated abdominal irradiation
- Reduced blunting and loss of villi, crypt loss, crypt hyperplasia and irregular crypt morphology
- Mitigated reduction in viable crypt counts
- Resulted in more rapid recovery from radiation-induced weight loss

>> PHY906 decreased the toxicity of abdominal irradiation, without protecting tumors, thereby increasing the therapeutic ratio.

>> Chemotherapy when combined with PHY906 results in a decrease in global toxicity and an increase in therapeutic effectiveness. [16]
- Reverts intestinal damage and support repopulation of intestinal progenitor cells
- Decreases toxicity in normal tissues
- Promotes cell death within the tumor microenvironment
- Does not affect the pharmacokinetics of the chemotherapeutic agents used **[9]**

3 Year Yale Study: [13]
PHY906 800mg BID days 1–4 + Capecitabine 1500mg/m2 BID days 1–7 of a 14-day cycle
Assessing: Clinical activity and tolerability of the combination in patients with gemcitabine-refractory pancreatic cancer
- Increased survival time
- Improved QOL

- Improved Pain Control
- Reduced Diarrhea
- Improved Depression
- **> Suggests that PHY906 potentiates the anti-tumor effect of capecitabine**

Sorafenib + PHY906 [8]
PHY906 is able to potentiate the antitumor activity of Sorafenib through multiple mechanisms.
- increases apoptosis directly via caspase-8 or
- indirectly via caspase-9
- enhances infiltration of macrophages into tumors
- enhances autophagy

SUMMARY: **PHY906 - HUANG QIN TANG**
Dosing 1-3 grams 2-4x/day
Primary Studies in Gastrointestinal Malignancies, Hepatocellular Carcinoma & Treatment Resistant Pancreatic Cancer
- Reduces Chemotherapy and Radiation Treatment Toxicities
- Extends Window of Treatment Time by Decreasing Adverse Effects
- Effective for Cancer Treatment Related Enteritis, Diarrhea, Nausea
- Protects and Restores Intestinal Epithelium (villi and crypts)
- Promotes Intestinal Progenitor or Stem Cell Growth, mediated by increasing Wnt signaling & potentiating Wnt activity
- Decreases Inflammatory Cytokines locally and systemically
- Synergistic-Increases Chemotherapy Efficacy
- Decreases Toxicity in Normal Tissues concurrently
- Promotes Cell Death, Apoptosis, Autophagy within the Tumor Microenvironment
- Improves QOL, decreased fatigue, pain, depression, nausea
- Increases Overall Survival and Progression Free Survival

SUPPLIERS:
Huang Qin Tang FORMULA:
- https://sunten.com
- http://eagleherbs.com/

Single Herb Ingredients:
- www.goldenlotusherbs.com
- www.evherbs.com
- https://sunten.com
- www.kpc.com

****All details of the Huang Qin Tang Clinical Pearl including references and two addendums are found in the accompanying slide presentation.****

Questions & Answers

Judy Pruzinsky: **What is your sense of continued low Vitamin D levels, though within the "normal" range? The patient with propensity for basal cell carcinomas tends to run in low 40s, even though supplementing with around 5000 IUs of D daily. Except for osteoporosis, she tends to be healthy, eating well - full rainbow and good protein and fats with each meal.**

There is a subset of patients in whom we do not see 25OH levels rise with dosing. First check 1,25 OH and 25OH in blood. Then switch to a different VIT D. Some pts require 10K IU daily. There are patients that have VIT D receptor issues.

2. Judy Pruzinsky: **On the last call, you mentioned radiation is not helpful with Triple negative breast cancer. Why?**

I do not recommend RT for BRCA positive patients due to compromised DNA repair. If RT is indicated in TNBC it does have benefit.

Oncol Lett. 2014 Feb; 7(2): 548–552. Published online 2013 Nov 22. doi: 10.3892/ol.2013.1700 Impact of radiation therapy on survival in patients with triple-negative breast cancer

3. Judy Pruzinsky: **You mentioned on the last call loving feverfew. Have you ever harvested local feverfew and used it fresh, and if so, which parts of the plant? We have it as a weed!**

- Tanacetum parthenium
- Flowers, leaves
- traditional use in fevers, migraines
- Inhibition of prostaglandin synthesis, blockage of platelet granule secretion, effects on smooth muscle, antitumor activity, inhibition of serotonin release, inhibition of histamine release, and mast cell inhibition, but information from clinical trials is limited
- Use in cancer setting: Parthenolide sesquiterpene lactone inflammation control NKkB, COX2 and cell cycle arrest, proapoptotic

Inflammation. 2012 Apr;35(2):560-5. doi: 10.1007/s10753-011-9346-0.Parthenolide, a sesquiterpene lactone, expresses multiple anti-cancer and anti-inflammatory activities. Mathema VB1, Koh YS, Thakuri BC, Sillanpää M.

Wildcrafting of Herbs:
There is an art to the harvesting and drying of any medicinal herb to make sure the active constituents are preserved and optimized. When utilizing botanicals for medicinal use, a large volume must be harvested and prepared and stored properly. Also, the concentration of active constituents is not known without an assay as in commercial products. Medicinal herbs can certainly be grown, harvested, wildcrafted and prepared and stored at home for personal use.

4. Judy Pruzinsky: **Who do you like to get liquid extracts from? You mentioned on the last call both alcohol-based (which has a very long shelf life) and glycerin.**

Golden Lotus Herbs, Herb Pharm high quality botanical extracts

I believe I remember you mentioning years ago that the mushrooms cannot be processed in alcohol. Is that true and is that true for any botanical?

Different solvents (water, alcohol, glycerine) extract different phytochemicals. Many medicinals are multi-extracted Medicinal Mushrooms can be both water and alcohol extracted.

5. Cynthia Watson: **You mentioned not wanting to do mammograms for Breast cancer patients and get an MRI. MRI requires gadolinium. What do you recommend to clear this and how do you protect the patients?**

- N-Acetyl Cysteine orally (1g NAC 3-5 times per day) and IV (per Dr. Cochran ND)
- Gadolinium is contraindicated in pts with poor kidney function as GAD induces fibrosis of nephron
- Dr. Walter Crinnon ND (Environmental Medicine) may have a protocol for detoxifying gadolinium (www.crinnionopinion.com, Scottsdale, AZ)

Also recently I checked tumor markers on a patient with breast cancer. I was told by her oncologist that they don't recommend doing this anymore. That it didn't help the prognosis. What do you recommend?

Tumor markers are OBTUSE, not fine, measuring tools and are really most useful for determining the impact of treatment on a pt with elevated tumor markers. If you include the tumor markers ALONG WITH cancer terrain--tumor microenvironment assessment.

6. Kamron Keep: Can you recommend a good, up to date resource/reference guide for drug-nutrient & drug-herb interactions and contraindications, one that includes chemotherapy/immunotherapy?

There are no GREAT references. However if you understand the mechanism of action and metabolism of drugs, nutraceuticals and phytochemicals, you can make an intelligent assessment of interactions.

- Herb, Nutrient, and Drug Interactions by Jonathan Treasure and Dwight McKee MD

- Often you can search pubmed and may find some studies on interactions. Be most careful interfering with coagulation factors and drug detoxification in terms of interactions. Some drug-nutrient interactions that you just know about (i.e. Cyclophosphamide is disrupted by curcumin).

7. Kamron Keep Would you recommend the same protein dose for someone on cancer treatment as you would a survivor?

Protein dose is a function of physiologic need (due to disease, treatment, level of activity and kidney function). For example, a pt with cachexia or sarcopenia requires more protein, more protein is required for resistance to infection and for wound healing ..so a surgical patient has a higher need. Digestive capacity and function, intestinal pathologies should also be assessed. With Kidney Disease I check with nephrologist, often limited to 40g/d. My usual recommendation is 60g/day. With higher needs up to 80g/day. Often give with proteolytic enzymes to enhance utilization.

8. Kamron Keep: **Are you familiar with a product called Master Amino Pattern (MAP) or Perfect Aminos by Dr. Minkoff? It's a protein supplement that is supposed to be well absorbed with very little nitrogen waste.**

MAP is not a product I have used in my practice. Perfect Aminos is an 8 Essential Amino Acids formula.
Branched Chain Aminos are most needed in supplementation. Cancer patients do better on low methionine diets.
Prefer food based proteins like pea, rice, hemp, whey, egg, collagen.

Elemental Nutrients (high amino and fatty acid content that is easy to digest) for those with impaired digestion (illeostomy, post surgery).

Montiff is considered one of the highest quality sources of free amino acids

Case Study Follow-Up (September Call)

Patient 51 yo Female - Recurrent UTI Symptoms - Submitted by Sarah Shehab

Background: Triple Negative Breast Cancer

Case Study + Treatment Plan are now in the Course Library for Review

Case Study

52F with History of Multiple Myeloma - Submitted by Sarah Shehab

Background:
52 yo female
Diagnosed with: Multiple Myeloma (2009), incidental finding, no end organ damage
Treatment included: Revlimid and Velcade, Allogenic bone marrow transplant; stopped revlimid in 2014 at patient's discretion due to side effects (fatigue and neuropathy)
Supportive friends and family

Questions & Recommendations:

****See the attached treatment plan recommendations****

- Hematologic cancers: hypercoagulation is a key consideration due to increase in serum protein from disease progression and treatment side effects
- First signs of multiple myeloma: bone fracture, fatigue
- Monitor kidney function (light chain protein processing)
- Restrict resveratrol with multiple myeloma patients

Case Study

Ovarian Cancer Recurrence with Stage 4 Endometriosis - Submitted by Brandin Roa

Background:
53 yo, female, Caucasian
Diagnosed with: Recurrent Ovarian Cancer (Aug 2017); original diagnosis Feb 2016 Stage 3C, high grade serous
Secondary diagnosis: stage 4 endometriosis,
Other health: ileostomy (2016), nephrostomy (2016), cholecystectomy (2006)
Disrupted sleep, depression, overweight, poor blood sugar regulation

Questions & Recommendations:

****See the attached treatment plan recommendations****

- Recurrence happens a lot with ovarian cancer; heterozygous nature makes it treatment resistant
- CA-125 marker is important but don't give it too much weight
- Goal: lengthen time to recurrence; address resistant tumour cells

References & Resources

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4. Farrell, M. P., & Kummar, S. (2003). Phase I/IIA randomized study of PHY906, a novel herbal agent, as a modulator of chemotherapy in patients with advanced colorectal cancer. Clinical colorectal cancer, 2(4), 253-256.

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Huang Qin Tang PHY906

1800 YEAR OLD TRADITIONAL CHINESE FORMULA MEETS MODERN ONCOLOGY

CREATE AN ENVIRONMENT WHERE CANCER CANNOT THRIVE

American Institute of Integrative Oncology RESEARCH & EDUCATION

FOUNDER, DR. NALINI CHILKOV

- HUANG QIN TANG
  - Huang Chin Tang
- Scute and Licorice Combination
- 黃芩湯
- Scutellaria Decoction
- Huang-Qin-Tang (HQT)
- PHY906

HUANG QIN TANG PHY906

1800 YEAR OLD TRADITIONAL CHINESE FORMULA

1-3 grams 2-4x/day

A decoction of a mixture of the four herbs

- 3 Scutellaria baicalensis Rt. (Huang Qin)
- 2 Glycyrrhiza uralensis Licorice Rt (Gan Cao)
- 2 Paeonia lactiflora White Peony Rt (Bai Shao)
- 2 Ziziphus jujuba Red Date (Da Zao)

A combination of these four herbs **has been in continuous use in traditional Chinese medicine for over 1800 years** for treating a variety of gastrointestinal distress such as diarrhea, cramps, nausea, vomiting etc.

Cancer Related Diarrhea

In patients receiving chemotherapy, the incidence of diarrhea can range from 50%–90%.

is an abnormal increase in stool liquidity and frequency that may be accompanied by abdominal cramping.

Cancer-related diarrhea can be seen in patients with carcinoid tumors, carcinoid syndrome, gastrointestinal tumors, and hormone-producing tumors.

Patients undergoing high-dose chemotherapy and **patients receiving radiation therapy** to abdominal and pelvic areas are more susceptible to diarrhea.

Certain chemotherapy, biotherapy, and targeted therapies and regimens are associated with greater risk of diarrhea.

Diarrhea 1-3 grams 2-4x/day PHY906 Huang Qin Tang 1800 year old Chinese Botanical Formula

Sci Transl Med. 2010 Aug 18;2(45):45ra59. doi: 10.1126/scitranslmed.3001270.

The four-herb Chinese medicine PHY906 reduces chemotherapy-induced gastrointestinal toxicity.

Lam W1, Bussom S, Guan F, Jiang Z, Zhang W, Gullen EA, Liu SH, Cheng YC.

Diarrhea: PHY906 Huang-Qin-Tang

Restores the intestinal epithelium by promoting the regeneration of intestinal progenitor or stem cells and several Wnt signaling components.

Anti-inflammatory effects: **decreases** the infiltration of neutrophils or macrophages

decreasesTNFa-tumor necrosis factor-alpha expression in the intestine, and proinflammatory cytokine concentrations in plasma.

Inhibits NFkB nuclear factor kappaB, COX-2 cyclooxygenase-2, and inducible nitric oxide synthase

Radiation-Induced Diarrhea

Acute radiation enteritis can be seen in up to 70% of patients

Radiation-induced diarrhea is an abnormal increase in stool liquidity and frequency associated with radiation therapy, particularly with radiation to abdominal and pelvic fields.

Late-onset effects, manifested as chronic enteritis, can occur months or years after treatment.

Int J Radiat Biol. 2013 Jan;89(1):16-25. doi: 10.3109/09553002.2012.717733. Epub 2012 Sep 3.

Preclinical studies of the Chinese Herbal Medicine formulation PHY906 (KD018) as a potential adjunct to radiation therapy. Rockwell S et al

PHY906 decreased the toxicity of fractionated abdominal irradiation.

Radiation alone produced marked blunting and loss of villi, crypt loss, crypt hyperplasia and irregular crypt morphology, which were reduced by PHY906.

The radiation-induced reduction in viable crypt counts was also mitigated by PHY906.

PHY906 did not alter radiation-induced weight loss, but resulted in more rapid recovery.

Conclusion—In this mouse model system, **PHY906 decreased the toxicity of abdominal irradiation, without protecting tumors, thereby increasing the therapeutic ratio.**

Wang et al. BMC Medical Genomics 2011, 4:38

Interaction of a traditional Chinese Medicine (PHY906) and CPT-11 on the inflammatory process in the tumor microenvironment

Decrease in global toxicity and an increase in therapeutic effectiveness of chemotherapy when combined with PHY906.

Increase the therapeutic window of chemotherapy by decreasing its gastrointestinal side effects.

Strong protective effects by PHY906 on chemotherapy-induced intestinal toxicity

Pre-clinical and early-phase clinical trials of PHY906 in combination with chemotherapy in patients with advanced hepatocellular carcinoma
pancreatic cancer
other gastrointestinal malignancies

Wang et al. BMC Medical Genomics 2011, 4:38

Interaction of a traditional Chinese Medicine (PHY906) and CPT-11 on the inflammatory process in the tumor microenvironment

PHY906 can revert intestinal damage caused by CPT-11 through the anti-inflammatory properties of the herb and the repopulation of intestinal progenitor cells

It can decrease toxicity in normal tissues while at the same time promoting cell death within the tumor microenvironment.

J Ethnopharmacol. 2012 Apr 10;140(3):614-23.

Old formula, new Rx: The journey of PHY906 as cancer adjuvant therapy.

Liu SH, Cheng YC.

10 year study with standardized extracts

PHY906 could reduce chemotherapy-induced toxicities and/or increase chemotherapeutic efficacy

PHY906 did not affect the pharmacokinetics of the chemotherapeutic agents used

Cancer Chemother Pharmacol. 2014 Feb; 73(2): 373–380.

First-in-human Phase II trial of the Botanical Formulation PHY906 with Capecitabine as Second-line Therapy in Patients with Advanced Pancreatic Cancer Muhammad Wasif Saif, et al

3 year study at Yale University
PHY906 800mg BID days 1–4 and
Capecitabine 1500mg/m2 BID days 1–7 of a 14-day cycle to assess the clinical activity and tolerability of the combination in patients with gemcitabine-refractory pancreatic cancer

- **Increased survival time**
  For patients who tolerated 2 cycles or above, the PFS was 12.3 weeks (range 4.2–51wks), and the mOS was 28 weeks (range 7–84.1wks) (Figure 2). Three-month survival was reached in 68% patients (17/25). Six-month survival rate was 44% (11/25) and nine-month survival rate reached 22%. (Typical Median Survival in chemoresistant PCA patients is 8 weeks**)**
- **Improved QOL**: Reduction in Loss of Wellbeing, Fatigue, Anorexia, Nausea,
- **Improved Pain Control** either defined by pain scale or amount of analgesics resulting in a response rate of 48%.
- **Reduced Diarrhea** Only two patients had diarrhea while 11 patients noticed either improvement in diarrhea or no need to take anti-diarrheal medications (44%)
- **Improved Depression** in four patients without use of antidepressants (16%).

Cancer Chemother Pharmacol. 2014 Feb; 73(2): 373–380.

First-in-human Phase II trial of the Botanical Formulation PHY906 with Capecitabine as Second-line Therapy in Patients with Advanced Pancreatic Cancer

Muhammad Wasif Saif, et al

Our efficacy data suggest that PHY906 potentiates the anti-tumor effect of capecitabine

All patients in this study were previously treated with gemcitabine single agent or in combinations.

This combination (of PHY906 and capcetabine) was well tolerated and resulted in a median overall survival of
22 weeks for all intended-to-treat patients,
28 weeks for patients received ≥2 cycles.

Two patients who derived partial response had surprisingly long overall survival with persistent improved QOL, survival length of 69 and 84 weeks.

IL-6 was negatively correlated with overall survival

PHY906 is reported to enhance the anti-tumor activity of Sorafenib, (NEXAVAR) a tyrosine kinase inhibitor, in nude mice

Sorafenib + PHY906
PHY906 is able to potentiate the antitumor activity of Sorafenib through multiple mechanisms.

- **increases apoptosis directly via caspase-8 or**
- **indirectly via caspase-9**
- **enhances infiltration of macrophages into tumors**
- **enhances autophagy**

US-UK Annual Cost $96,000

India generic version Annual Cost $2,800

Wing Lam, Zaoli Jiang et al

PHY906(KD018), an adjuvant based on a 1800-year-old Chinese medicine, enhanced the anti-tumor activity of Sorafenib by changing the tumor microenvironment

www.nature.com
SCIENTIFIC REPORTS | 5 : 9384 | DOI: 10.1038/srep09384

SUMMARY : PHY906 -HUANG QIN TANG
Dosing 1-3 grams 2-4x/day
Primary Studies in Gastrointestinal Malignancies,
Hepatocellular Carcinoma and Treatment Resistant Pancreatic Cancer

- Reduces Chemotherapy and Radiation Treatment Toxicities
- Extends Window of Tx Time by Decreasing Adverse Effects
- Effective for Cancer Treatment Related Enteritis,Diarrhea, Nausea
- Protects and Restores Intestinal Epithelium (villi and crypts)
- Promotes of Intestinal Progenitor or Stem Cell Growth, mediated by increasing Wnt signaling & potentiating Wnt activity.
- Decreases Inflammatory Cytokines locally and systemically
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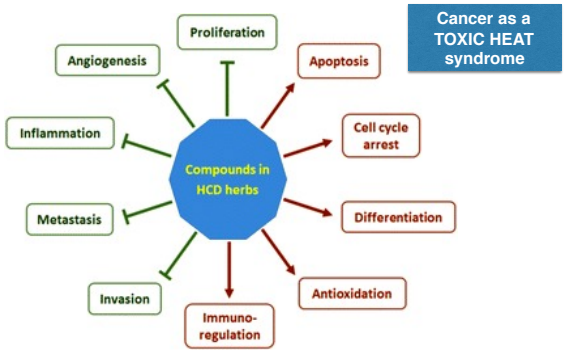
- Decreases Toxicity in Normal Tissues concurrently Promotes Cell Death, Apoptosis, Autophagy within the Tumor Microenvironment
- Improves QOL, decreased fatigue, pain, depression, nausea
- Increases Overall Survival and Progression Free Survival

Chin Med. 2017; 12: 20.
Anticancer activities and mechanisms of heat-clearing and detoxicating traditional Chinese herbal medicine



Recommended SUPPLIERS OF
HUANG QIN TANG FORMULA

https://sunten.com
http://eagleherbs.com/

Recommended SUPPLIERS OF
SINGLE HERB INGREDIENTS in
HUANG QIN TANG

www.goldenlotusherbs.com
www.evherbs.com
https://sunten.com
www.kpc.com

HUANG QIN TANG
EXCELLENT SUMMARY
History and Current Research
Changzhen Gong, PhD

From Antiquity to Modernity: Huang Qin Tang at Yale Medical School
Part 1, Acupuncture Today February, 2016, Vol. 17, Issue 02

From Antiquity to Modernity: Huang Qin Tang at Yale Medical School
Part 2 Acupuncture Today March, 2016, Vol. 17, Issue 03

From Antiquity to Modernity: Huang Qin Tang at Yale Medical School
Part 3 Acupuncture Today April, 2016, Vol. 17, Issue 04

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ADDENDUM I

TRADITIONAL CHINESE HERBAL MEDICINE USE OF FOUR INGREDIENTS in HUANG QIN TANG

Traditional Chinese Herbal Medicine

Huang Qin 黃苓 baical skullcap root, Scutellaria baicalensis Georgi (skullcap), scutellaria, scute Radix Scutellariae Baicalensis

- Regulates the Shao Yang. What's a Shao Yang? In biomedicine there are different organs or structures that can be infected. For instance, when you have the common cold, this is an upper respiratory tract infection. In both biomedicine and Chinese medicine, an infection such as this can spread to other locations.
- One of these locations is called the Shao Yang which is not really an organ, more like a depth which is deeper than the skin, but not as deep as the bones. In fact, it is considered to be the "pivot" or hinge between the exterior of the body (skin, lungs, nose) and the interior of the body (stomach and intestines). This location doesn't have an anatomical counterpart in biomedicine (some say the Shao Yang is the gallbladder, and in some contexts this is correct, just not here.) The key point about the Shao Yang is that if it is clogged up by disease or side effects of drug therapies (or drug addictions) it can undermine many digestive functions. This is its value in Huang Qin Tang as has been studied by researchers. Huang Qin (Rx. Scutellariae) regulates digestive and intestinal functions

www.eagleherbs.com

Traditional Chinese Herbal Medicine

Da Zao 大棗 jujube, Chinese date Jujubae Fructus, Ziziphus jujuba Mill

- Press releases describing the use of Huang Qin Tang to regulate digestive functions describe this formula's ingredients as having a "fruit from a buckthorn tree". This seems to be a misprint or misstatement. Other news stories have been corrected to accurately include Da Zao Chinese date as the traditional ingredient in Huang Qin tang.

- Chinese date is sweet and delicious. It is often used in formulas to stimulate digestive functions. Appetite and digestive functions are so important in Chinese medicine that we have a little mini-formula called the "three candies". These three herbs can be added to many formulas to stimulate the Stomach functions. Two of these herbs (da zao date and gan cao licorice root) are in Huang Qin Tang already. The third of the three candies is included in the modifications for nausea (sheng jiang or ginger root).

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Traditional Chinese Herbal Medicine

Bai Shao 白芍 white peony root, peony Paeoniae Radix alba, Paeonia lactiflora Pall

- This herb, when teamed up with Zhi Gan Cao below helps relax abdominal cramps.

Zhi Gan Cao 炙甘草 licorice root, Glycyrrhiza uralensis Fisch (licorice), Radix Glycyrrhizae prep.

- This herb is often added to formulas to harmonize the ingredients and soften side effects. This is a very sweet-tasting herb. Its name actually translates to "sweet herb". This herb has a calming and softening quality that protects against side-effects due to the more harsh ingredients in this formula (specifically, huang qin). However in this formula, it also teams up with bai shao (Rx. Paeoniae) to relax abdominal pain and cramps. This herb's detoxification functions have made gan cao the darling of researchers who study herbal solutions to some of those nasty flus that have been in the news in recent years.

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ADDENDUM II
sources uncertain for some of the statements

When mice were given chemotherapy and Huang Qin Tang, intestinal cells began dividing faster than they were dying off. This was due to an increase in intestinal stem cell activity. (1)

Huang Qin Tang works by:

- increase cell replication in the gut due to increased stem cell activity
- upregulate the wnt pathway (wnt proteins act as stem cell regulators)
- reduce inflammation by reducing iNOS levels
- Reduce the inflammatory activities of NF-KB and COX2 which are 2 genes involved in the immune response (2)
- decreases neutrophils and macrophages (high levels of macrophages are found in some gastroparesis patients)
- reduces chemotherapy induced diarrhea (6)

According to the manufacturers website(?), "The molecular mechanisms that appear to contribute to PHY906's pharmacological activity include inhibition of MMP-2, MDR, NFkB, ß-glucuronidase, the NK-1 receptor, and the delta-opioid receptor." (5)

Dosage: In cancer patients has been between 600-2400mg twice daily, for 4 days every 2 weeks.

Safety: Generally considered safe. In mice given cancer treatment, 100% of the mice survived when given Huang Qin Tang vs 60% when given the cancer treatment alone. (3)

1) Chinese Medicine Goes Under the Microscope
http://online.wsj.com/article/SB10001424052702304177104577313821796467932.html

2) How an 1800 year old herbal mix heals the gut
http://www.nature.com/news/2010/100818/full/news.2010.417.html

3) The Four-Herb Chinese Medicine PHY906 Reduces Chemotherapy-Induced Gastrointestinal Toxicity
http://stm.sciencemag.org/content/2/45/45ra59.abstract

4) Old formula, new Rx: The journey of PHY906 as cancer adjuvant therapy
http://www.sciencedirect.com/science/article/pii/S0378874112000608

5) PhytoCeutica, Inc (site is down??)
http://www.phytoceutica.com/preclinicalstudies_files/phy906.htm

6) Effect of PHY906 on capecitabine (CAP)-induced diarrhea in patients with GI malignancies
http://meeting.ascopubs.org/cgi/content/abstract/27/15S/e20595

PHY906 can also restore damaged intestinal epithelium through promotion of intestinal progenitor or stem cell growth, mediated by increasing of several Wnt signaling components as well as potentiation of Wnt action.

Case Study Submitted by Brandin Roa **Dr Nalini notes 09/30/17**
Ovarian Cancer Recurrence

Dx 2016 St 3 high grade serous carcinoma, carcinomatosis
Surgical debulking
Chemotherapy: drugs not indicated

CA 125 rose from 37>>258 ER+?
Hx mutated p53 (high risk of recurrence)'

Ileostomy, Cholecystectomy (impaired absorption of nutrients)
Nephrostomy

No current pathology report
No current scan-radiology report
No info re oncology recommendations

ONCOLOGY :Consider chemotherapy and immune therapy

Integrative Supportive Care depends on oncology treatment
Optimize Vitamin D to 60-75 ng/dl (test)

Acupuncture weekly

Add targeted therapies
Gingko biloba 2 grams/day
Metatrol 1 cap 2x/day (fermented wheat germ)
Selenium 100mcg (Consider Natura Health Products CVResq) or 2 Brazil Nuts Daily
Huang Qin (Scutellaria baicalensis) 3 grams twice daily
CS Pure Honokiol 2 caps 3x/day (last dose can be bedtime)
CS Mushroom Immune Max (combination powder) 1 level teaspoon daily (can put in shake or mix in hot water or ginger tea)
CS Modified Citrus Pectin 1 5 gram scoop 3x/day dissolve in hot water, take at leat 15 min before or 1 hour after food or supplments or herbs

EGCG 2 grams daily
DFH Curcumin (C3 or Curcumevail) 2 grams twice dailiy

Every other week
ARG Super Artemesinin 2 caps twice daily

Basics
Copper Free Iron Free Multi
Bone Mineral Formula daily
EPA DHA 2 grams daiyl

Chinese Herbs
Red Sage Extract Dan Shen Salvia Milthiorrhiza 1 teaspoon twice daily

Traditional Chinese Formula
Si Chuan Da Bu Tang (All Inclusive Tonifying Formula, 10 Great Tonification Formula)
two teaspoons daily

Consider
Low Dose Naltrexone 4.5mg at bedtime
IV Vitamin C
IV Artesunate
IV Mistletoe
Assess for oral copper chelation therapy
Consider THC:CBD therapy at high doses

Diet: Plant based Low Glycemic,
Intermittent Fasting
Ketogenic Diet for 24-48 h before chemo therapy

Modifications to your Tx plan
Add I heaping teaspoon flax seed meal to shake
Add Fats to Shake
Take with a digestive enzyme

Address Weight Loss and Body Composition (weight 192 5'4")
remove grains, fruit, sweeter, stay hydrated

Blood Tests
CMP-comprehensive
25 OH Vit D
Fibrinogen activity
D dimer
Serum Cu
Serum Zn
Ceruloplasmin
Serum B12
CBC + diff (check NLR)
hs CRP
IL-6

Case Study from S Shahab 09.30.17
Multiple Myeloma

Studies show that early intervention is preferable to waiting and watching a smoldering MM
Revlimid + Dexamethasone
and/or Velcade(no green tea with Velcade)

Manage Inflammation
Bone Health
Hypercoagulation
NFkB and AKT pathways

Active agens
Sulphoraphanes Broccoprotect 2/2x/day
Low Dose DHEA 5-25 mg q am
Licorice Root extract 2 teaspoons daily (Gan Cao)
Ursolic Acid (Oldenlandia/Heydotis, Sage, Rosemary)
ursolic acid, found in basil, apples, prunes, and cranberries, for its ability to suppress STAT3 activation.
Pure Honokiol (magnolia bark) 3 caps x day
Vitamin D 75
Berberine 500mg tid
Ganoderma
Isatis Ban Lan Gen
Curcumin

Hypercoagulation
Omega 3 FA
Curcumin
Salvia Milthiorrhiza Dan Shen 2 teaspoons dailiy
Proteolytic enzymes (Wobenzyme or similar)

Clinical Synergy Modified Citrus Pectin 1 5g scoop 3x.day

Protect bones
Osteoben 2/2x/day
Restore Right+Psoralea+Epimedium+White Peony

Adaptogen
Natura Health Products POWER ADAPT 1 teaspoon twice daily

Custom Tonic (TBD) 1 teaspoon 2x/day
Magnolia

Rabdosia
Licorice Root
Green Tea (if not on Velcade)
Astragalus
Ganoderma
Chaga
Cordyceps
Scutellaria baicalensis
Ashwaganda
Milk Thistle
Ginger
Schisandra
Lycium
Tang Kuei
Gotu Kola
Licorice Root
Dan Shen Salvia milt.

SCHEMA OF PATHOPHYSIOLOGY

Plasma cells	* usually in the:bone marrow (myeloma) but can also be extra-medullary
Skeletal Finding: associated effects of bone destruction	* solitary or multiple osteolytic lesions * diffuse osteoporosis * elevated serum calcium * hypercalciuria * loss of height
extra skeletal myeloma (i.e.. outside bone)	* most commonly in head/neck area, e.g. nasopharynx., Also found in liver, kidneys and other soft tissues
peripheral blood	* anemia, abnormal clotting * leukopenia, thrombocytopenia * plasma cell leukemia * circulating monoclonal B lymphocytes
	* hyperproteinemia 80-150 gr/1

	* hypervolemia
	* monoclonal immunoglobulins (IgG, IgD, IgA,
plasma	IgM, IgD, light chains)
protein	* amyloidosis
changes	* narrowed anion gap
	* elevated serum B-2-microblogulin
	* decreased serum albumin
	* elevated serum Il-6 and C.R.P. (C - reactive protein)
	* proteinuria, casts, without leucocytes or
kidney	erythrocytes
abnormalities	* tubular dysfunction with acidosis and uremia

Of myeloma patients, 93% have multiple bone lesions and 3% have only one lesion. The remaining 4% who have only extra-skeletal lesions represent a sub-group with distinct disease and treatment characteristics; this sub-group will not be dealt within the context of this booklet.

Types of Monoclonal Proteins (M-components)	Percentages/Totals
Serum types:	
IgG	52
	21
IgA	
	75%
IgD	2
IgE	<0.01
Urine (Bence Jones only) types K (Kappa) L (lambda)	11%
H chains (G or A) only	<1
	<1
2 or more monoclonal paraproteins	

	2%
no monoclonal paraprotein	1
*IgM	12%

*IgM (rarely myeloma) typically associated with Waldenstroms macroglobulinemia rather than myeloma.

Source: Data on 1,827 myeloma patients, collected and analyzed by Pruzanski and Ogryzlo, 1970.

The plasma volume rises due to the elevated total serum protein content. It can cause pseudo hyponatraemia (low serum sodium) and narrowed anion gap. High concentrations of myeloma protein can give a clinical "hyperviscosity syndrome."