

Functional Herbal Therapy and Cancer: Module 4

The Role of Herbs in Supporting the Cancer Patient During Conventional Treatments



Module 4.1: Patient Issues

Setting realistic goals

- Complete eradication of a malignant tumor is not always achieved, even by aggressive mainstream treatments
- Natural approaches are generally not that active at directly killing tumor cells or controlling tumor growth
- They often will work best in a complementary role in conjunction with a conventional approach, as outlined in Module 3
- Adopting a living with cancer strategy can be relevant in many cases, rather than aiming for total cancer removal

Key prognostic indicators

1. The **modified Glasgow Prognostic Score (mGPS)**, ideally should be zero):

mGPS	Score
Crp \leq 10, albumin \geq 35	0
Crp \leq 10, albumin $<$ 35	0
Crp $>$ 10	1
Crp $>$ 10 and albumin $<$ 35	2

mGPS: Modified glasgow prognostic score.

2. **Serum ferritin** (ideally 50-100 ng/mL)
3. **Systemic Immune-inflammation Index (SII)** = $(P \times N)/L$, where P, N, and L refer to peripheral platelet, neutrophil, and lymphocyte counts, respectively. Better prognosis for less than 300.
4. **Plasma D-dimer**: the lower the better, but poorer prognosis if values are higher than normal (0.5 mcg/mL)

Module 4.3: Medicinal Cannabis and Cancer

Key herbs for improving QoL:

1. Korean ginseng
2. Ginger
3. Reishi and possibly shiitake and maitake
4. Cat's claw
5. Injected mistletoe
6. Ginkgo around radiotherapy

Module 4.4: Herbs and Cancer-associated Health Issues

The bottom line

- For CINV, boosting appetite and managing pain, need a preparation containing THC
- But this is best combined with a CBD intake (taken via a separate product if necessary) at around the same amount of THC in mg
- This helps to modulate the negative effects of THC and provides synergy (the “entourage effect”)
- CBD could be considered speculatively for late stage cancers (as per the case reports) at a dose of at least 15 mg/day (possibly plus THC, but not THC alo)

Key herbs for reducing fatigue:

1. Korean ginseng or American ginseng
2. Ginger
3. *Coriolus (Trametes) versicolor* (PSK)
4. Bioavailable curcumin
5. PHY906 with Baical skullcap, licorice, *Paeonia lactiflora* and the Chinese date
6. Ashwagandha
7. Cat's claw

Key herbs for preventing oral mucositis:

1. Chamomile (topical use)
2. Calendula (topical use)
3. Curcumin (topical use or ingestion)
4. Milk thistle (oral doses)

Key herbs for preventing intestinal mucositis:

1. PHY906 with Baical skullcap, licorice, *Paeonia lactiflora* and the Chinese date
2. TJ-14 with Pinellia Tuber, Baical skullcap, licorice root, Chinese date, ginseng root, processed ginger rhizome, and Coptis rhizome.

Key herbs for chemotherapy-induced peripheral neuropathy (CIPN):

1. Ginkgo biloba (prevention)
2. Licorice and peony (prevention)
3. Traditional pain herbs (symptoms), especially Corydalis and including medicinal cannabis

Key herbs for cancer-associated pain:

1. Californian poppy (*Eschscholtzia californica*)
2. *Corydalis species*
3. Willow bark (*Salix species*)
4. Yellow jasmine (*Gelsemium sempervirens*)
5. Medicinal cannabis (*Cannabis sativa*)
6. Jamaica dogwood (*Piscidia piscipula*, formerly also called *Piscidia erythrina*)

Cancer anorexia and herbs:

1. Improve digestion with gentle bitters (globe artichoke, dandelion root), aromatic digestives (chen pi, cinnamon, ginger) and cholaretics
2. Support the liver with milk thistle
3. Improve overall health and resilience with tonic and adaptogenic herbs including ginseng, ashwagandha, Gynostemma, Rhodiola and Astragalus

Key herbs for secondary lymphedema (best to start early as this is a progressive condition):

1. Anti-inflammatory herbs, especially bioavailable curcumin and Boswellia (targets leukotrienes)
2. Anti-edema herbs: horsechestnut and butcher's broom (*Ruscus*)
3. Antifibrotic herbs: gotu kola and Baical skullcap (rich in flavonoids)
4. Microvascular herbs: Ginkgo, gotu kola, grape seed and microcirculation diet

Module 4.5: Left-field Ideas for Herbs and Cancer

Pulsed dose therapy

- Pulsed curcumin and artemisinin therapy (for example 4 tablets 2 to 3 times a day of a bioavailable curcumin (100 mg) together with the same dose of *Artemisia annua* in tablets (containing 40 mg artemisinin per tablet); 7 days on, 7 days off for 4 to 6 weeks)
- Basis includes induction of hepatic enzymes by artemisinin, so the need to stop treatment
- Also encompasses the concept of Natural Adaptive Therapy discussed in Module 4.6

Pulsed anti-stem-cell therapy

- Cycle of 5 to 7 days on and 5 to 7 days off
- For the “on” days: bioavailable curcumin 600 to 800 mg/day
- AND *Artemisia annua* delivering artemisinin 240 to 320 mg/day
- AND Polygonum (resveratrol), Korean ginseng and others like extra Ginkgo, green tea, pomegranate extract
- Resveratrol not to exceed 400 mg/day

Herbal “immunotherapy” with poke root:

- Quality and potency of tinctures can be quite variable
- Hence best to use a dose titration strategy
- Find the minimum dose that causes mild nausea and back off to the highest dose that doesnot
- For example, start with 5 drops with water 3 times a day
- Increase by 5 drops at a time to find maximum tolerated dose
- Best used in conjunction with other immune herbs, especially those boosting NK cell activity such as mushrooms and Echinacea root
- Can also add Nigella seed at a dose of 10 to 20 g of crushed whole seed per day

Module 4.6: Surviving Cancer: Scenarios and Cases

Key typical scenarios:

1. Person is undergoing conventional treatment that involves selected combinations of surgery, chemotherapy and radiotherapy
 - Outcome is either “complete” remission or not
2. Person undergoes surgery for tumor removal but either refuses or is not advised follow-up chemotherapy or radiotherapy
3. Person is to have cancer immunotherapy

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4. Metastasis has occurred after a period of remission, and conventional treatments are either undergoing, planned or not advised
5. No conventional treatments are offered either because of a “watch and wait” scenario
6. Or because treatment options have either been exhausted or deemed not appropriate

Scenario 1

- Optimized ketogenic diet
- Surgery support module
- Followed by chemotherapy and/or radiotherapy support modules as appropriate when these are planned
- If remission, then prevention support module
- If cancer still present: follow guidelines for LWC support module

Scenario 2

- Surgery support module, if surgery has not yet happened
- If no conventional treatments advised: prevention support module with periodic Pulsed Anti-stem-cell Therapy

If conventional treatments advised but refused:

- Prevention and LWC support modules

Scenario 3

- Support as described below in 7: Immunotherapy Support Module with immune herbs, aspects of the TME, CSC and metastasis reduction protocols, and encouraging a healthy gut microbiome
- If successful: prevention support module
- If not successful: LWC support module

Scenario 4

Metastasis has occurred after a period of remission

- LWC support module if no conventional treatments planned
- If surgery and/or chemotherapy and/or radiotherapy planned, appropriate module(s) followed by LWC and prevention support modules
- If immunotherapy planned, as per Scenario 3 above

Scenarios 5 and 6

Watch and wait scenario:

- Prevention support module
- And periodic Pulsed Anti-stem-cell Therapy
- And specific therapies as appropriate, eg in prostate cancer with an elevated PSA (see Module 5)

No conventional treatment options:

- LWC support module

The seven treatment support modules

1. Surgery Support Module
2. Chemotherapy Support Module
3. Radiotherapy Support Module
4. Module for reducing cancer occurrence or recurrence risk (Prevention Support Module)
5. TME, CSC and Metastasis Reduction Support Modules
6. Living With Cancer (LWC) Support Module
7. Immunotherapy Support Module

1: Surgery support module

Objectives for surgery support:

1. Reduce the potential negative impact of anesthesia and analgesics with milk thistle/silymarin (see below for protocol) and anti-inflammatory herbs (see 2 immediately below)
2. Reduce the inflammatory aftermath of surgery: bioavailable curcumin, Ginkgo (PAF) and willow bark (all taken for 4 to 6 weeks after surgery)
3. Reduce the procoagulant, prothrombotic effect of surgery with ginger, curcumin, garlic, dan shen or Coleus (all taken for 4 to 6 weeks after surgery)
4. Support immunity with 3-way mushroom therapy (throughout), Echinacea root, Astragalus (both after)
5. Assist with side effects such as nausea: ginger, Korean ginseng (both after)
6. Promote healing, but without stimulating the cancer: Ginkgo (after) and the microcirculation diet protocol (throughout); probably best to avoid gotu kola, but this is a theoretical concern
7. Also, aspects of the TME, CSC and metastasis reduction protocols (as per previous) as appropriate

Milk thistle protocol for general anesthesia

Start the herb (in concentrated silymarin extract tablet form) about three weeks prior to surgery. Advise to continue taking it right up to the day before surgery and then to pick up right where they left off as soon as possible afterwards.

Dosage depends on the anticipated length of the procedure (and the time under general anesthesia). For surgery up to two hours, recommend 600 mg a day, and to continue taking it for four weeks after surgery. If the surgery takes between two and four hours, suggest taking 800 mg a day, and then continuing that dose for six weeks after surgery. And for surgery more than four hours long, still recommend taking 800 mg a day, but continue that dose each day for two to three months post-surgery.

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2: Chemotherapy support module

Fasting Before Chemotherapy

1. Only advise if the patient is robust and not malnourished, emaciated or underweight
2. Suggest fasting for 36 hours before and 24 hours after chemotherapy treatments
3. Another alternative to complete fasting would be to suggest a fasting-mimicking diet for three days around chemotherapy, as per above
4. If that is too difficult, then recommend a tolerable level of calorie restriction in this time frame.

Before, during and after chemotherapy

Note, while the following is optimal, it may not be always be practical in its full form due to cost and compliance. If this is the case, then prioritize according to the patient's needs and history.

Before chemotherapy commences (ideally one month prior):

- Commence diet, preferably an optimized ketogenic diet
- Start liquid herbal blood cell, mitochondrial support formula (see below for example)
- Start 3-way mushroom therapy
- Start sodium bicarbonate
- Consider Horsechestnut, butcher's broom, possibly grape seed extract
- Just prior to chemotherapy, commence short-term fasting as outlined above
- Example blood cell, mitochondrial support formula (can instead use tablets to approximate this approach):

Codonopsis	1:2	30 mL
Withania	1:1	20 mL
Astragalus	1:2	40 mL
Korean Ginseng	1:2	<u>20 mL</u>
		110 mL

Dose 8 mL with water 2 to 3 times a day

During ongoing chemotherapy

24 to 48 hours either side of intravenous doses

- Continue optimized ketogenic diet, except for the fasting period
- Herbal liquid blood cell, mitochondrial support formula or equivalent in tablet form
- 3-way mushroom therapy
- Sodium bicarbonate

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- Milk thistle as an option to protect the liver
- Ginger for nausea, and can continue as needed
- IN GENERAL NO OTHER HERBAL TREATMENTS

Between chemotherapy doses

- Continue diet, preferably optimized ketogenic
- Continue herbal liquid formula or equivalent in tablet form
- 3-way mushroom therapy, plus Echinacea root
- Sodium bicarbonate
- Milk thistle as an option to protect the liver
- Bioavailable curcumin
- **Other aspects of outcome-influencing strategies already flagged and not covered in the above, especially:**
- Ginkgo to protect against metastasis
- Resveratrol, green tea, pomegranate extract, artemisinin, broccoli sprouts and licorice for key signalling pathways
- Boswellia for inflammation
- Reduce TME tissue stiffness with Horsechestnut, butcher's broom
- Improve circulation and oxygenation with the microcirculation diet (low sugar version) and by selecting from ginger, garlic, dan shen, Coleus, celery seed, grape seed and bilberry

After chemotherapy has stopped, continue the following for 4 to 6 weeks:

- Continue diet, preferably optimized ketogenic
- Herbal liquid formula or tablet equivalent
- 3-way mushroom therapy, plus Echinacea
- Sodium bicarbonate
- Milk thistle as an option to protect the liver
- Bioavailable curcumin
- **Other aspects of outcome-influencing strategies already flagged and not covered in the above, especially:**
- Ginkgo to protect against metastasis
- Resveratrol, green tea, pomegranate extract, artemisinin, broccoli sprouts and licorice for key signalling pathways
- Boswellia for inflammation
- Reduce TME tissue stiffness with Horsechestnut, butcher's broom
- Improve circulation and oxygenation with the microcirculation diet (low sugar version) and by selecting from ginger, garlic, dan shen, Coleus, celery seed, grape seed and bilberry

Then after this 4 to 6-week period has finished, continue with:

- Diet, preferably optimized ketogenic
- Stop PSK, but continue other two aspects of mushroom therapy, plus Echinacea root
- Sodium bicarbonate
- Ginkgo to protect against metastasis and lower inflammation
- Consider other anti-inflammatory herbs, especially Boswellia and willow bark
- Pulsed anti-stem-cell therapy (see above), OR otherwise continuous bioavailable curcumin

Then if all clear after around 12 to 18 months go to Prevention Support Module below.

3: Radiotherapy support module:

1. Reduce the potential negative impact and side effects of radiation by judicious use of adaptogens and radioprotectants, including Ginkgo (before and after, but not during), berberine eg from Phellodendron (during), Eleuthero and Astragalus (both throughout)
2. Reduce the inflammatory aftermath of radiotherapy with bioavailable curcumin (high dose, after), and Ginkgo and Boswellia (both after)
3. Employ a safe radiosensitizer, for example bioavailable curcumin (low dose, during)
4. Support immunity with 3-way mushroom therapy, Echinacea root and Astragalus (all throughout),
5. Finally, aspects of the TME and metastasis reduction protocols, as per above in the Chemotherapy Treatment Module, with herbs not already covered in 1 to 4

4: Prevention support module

Ten key strategies for cancer prevention

1. Inflammation ↓
2. Immune surveillance ↑; general resistance to infection ↑
3. Oxidative stress ↓; detoxification ↑, Nrf2 ↑
4. Maintain a healthy microbiome
5. Insulin resistance/blood sugar ↓; growth factors, such as IGF-1 ↓
6. “Thinner” blood, healthy vascular endothelial responses, improved tissue perfusion
7. Healthy methylation and epigenetic/genomic stability ↑
8. Maximising ketosis/mitochondrial therapy
9. Encouraging a tissue state that is hostile to tumor growth
10. Delaying cellular aging

Main herbs for the ten key strategies for cancer prevention

1. Turmeric/curcumin; willow bark/salicin; Boswellia, Ginkgo
2. Echinacea root; mushrooms, Astragalus
3. Green tea; rosemary; broccoli sprouts; garlic

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4. Bowel Flora Protocol
5. Gymnema; Nigella; Polygonum/resveratrol; Korean ginseng
6. Garlic; Ginkgo; Turmeric/curcumin; green tea; microcirculation diet
7. Green tea; broccoli sprouts; Korean ginseng; Ginkgo Turmeric/curcumin
8. Polygonum/resveratrol; Ginkgo; Turmeric/curcumin; Korean ginseng
9. Microcirculation diet; Strategies 1, 2, 6, 8 and 10
10. Garlic, rosemary, Korean ginseng, Turmeric/curcumin, Polygonum/resveratrol

With Emphasis on These in the Diet

1. Foods rich in carotenoids: carrots, dark green leafy vegetables, sweet potatoes, tomatoes, pumpkin
2. All the elements of the microcirculation diet
3. Foods rich in flavonoids: apples, onions, citrus fruit, chamomile tea
4. Mushrooms of all kinds, especially as soup
5. Foods rich in anthocyanins: berries, cherries, dark grapes, plums, purple vegetable varieties
6. Foods rich in phyto melatonin: coffee, cherries, apples, tomatoes, peppermint tea
7. Cruciferous vegetables: broccoli, kale, cabbage
8. Fiber, fiber, fiber!!!

5: TME, CSC and metastasis reduction support modules

1: Improve the tumor microenvironment (TME):

a) lower TME pH

- Sodium bicarbonate 5 g in water twice a day
- An optimized ketogenic diet

b) reduce TME tissue stiffness

- Horsechestnut, butcher's broom, possibly grape seed extract

c) reduce TME hypoxia

- Microcirculation diet (low sugar version)
- Ginkgo, ginger, garlic, curcumin, Dan Shen, Coleus

2: Render cancer stem cells more vulnerable:

a) reduce nutrient supply

- Short-term fasting...and at other times...
- The optimized ketogenic diet

b) impact key signalling pathways

- Curcumin, resveratrol, green tea, pomegranate extract, artemisinin, broccoli sprouts, Korean ginseng, licorice

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c) enhance immune surveillance

- Three-way mushroom immune therapy
- Echinacea root and Astragalus

See also pulsed anti-stem-cell therapy above

3: Reduce the risk of metastasis:

a) reduce metastasis-promoting inflammation

- Curcumin, Boswellia and Ginkgo (role of PAF)

b) improve vascular integrity and blood quality

- Grape seed, bilberry, green tea, curcumin
- Ginger, curcumin, garlic, Dan Shen, Coleus

c) enhance immune function

- Three-way mushroom immune therapy
- Echinacea root and Astragalus

Summary approach for outcome-influencing strategies using herbs during conventional chemotherapy (removing overlaps)

Lower TME pH

- Sodium bicarbonate
- An optimized ketogenic diet and short-term fasting or fasting-mimicking diet

Reduce TME tissue stiffness

- Horsechestnut, butcher's broom

Improve circulation and oxygenation

- Microcirculation diet (low sugar version)
- Ginger, garlic, Dan Shen, Coleus, celery seed
- Grape seed, bilberry

Impact key signalling pathways

- Resveratrol, green tea, pomegranate extract, artemisinin, broccoli sprouts, Korean ginseng, licorice

Enhance immune surveillance

- Three-way mushroom immune therapy
- Echinacea root and Astragalus

Lower inflammation

- Bioavailable curcumin, Boswellia, Ginkgo (anti-PAF)

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Useful combinations for above outcome-influencing strategies using herbs during conventional chemotherapy

- Horsechestnut, butcher's broom, grape seed
- Echinacea angustifolia root and Echinacea purpurea root
- Reishi, shiitake and possibly maitake
- Boswellia, turmeric, ginger and celery seed
- Korean ginseng, Ginkgo, Fallopi (resveratrol), silymarin, grape seed

6: Living with Cancer (LWC) support module

- Optimized ketogenic diet (at least part of the time), time-restricted feeding (TRF) and all key phytonutrients from the prevention and microcirculation diets
- Full or part 3-way mushroom therapy
- Other immune herbs: Astragalus and Echinacea root especially
- Consider one novel immune therapy: poke root or Nigella seed
- Consider medicinal cannabis as appropriate
- Pulsed Anti-stem-cell Therapy with perhaps continuous use of key phytochemicals/ herbs like curcumin and resveratrol
- TME and anti-metastasis modules
- Consider Nrf2 herbs and ginseng/Gynostemma
- Consider a controversial but credible herbal formula, eg Essiac, salvestrols
- Consider other keys herbs in cancer, specifically Boswellia, cat's claw; and more speculative ones like chaparral and dandelion root (easily drunk as a tea)

7: Immunotherapy support module:

1. Encourage a healthy gut microbiome with abundant dietary fiber and the bowel flora protocol (see Module 2.4)
2. Support immunity with Echinacea root, 3-way mushroom therapy and Astragalus
3. Aspects of the TME, CSC and metastasis reduction protocols (see previously), but especially bicarbonate, microcirculation support (Ginkgo and gotu kola), bioavailable curcumin