

# Integrative Oncology for Clinicians



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# MY JOURNEY TO INTEGRATIVE MEDICINE

- Maternal grandmother with breast cancer
- Private practice heme/onc, Syracuse NY
- Miracles and shortcomings of modern medicine:
  - Side effects
  - Time constraints with patients
  - Increased volume, decreased reimbursement
  - Fragmentation
  - Patient stressors
  - "Back-end medicine"
  - Provider resistance/dismissive

# WHAT IS INTEGRATIVE MEDICINE (IM)?

- Growing: the direction healthcare must take.
- NOT same as *alternative medicine* (replacing conventional), includes more than *complementary medicine*.
- *Integrative Holistic Medicine (IM or IHM)*: addresses WHOLE person—body, mind, spirit; neither rejects conventional nor accepts alternative therapies uncritically; evidence-based; HEALING-ORIENTED MEDICINE, enhancing "terrain" (balance hormones, decrease oxidative stress, detox, enhance immune function, decrease inflammation, improve digestion), less hospitable to illness.

# INTEGRATION OF WESTERN AND EASTERN MEDICINE

- Western health care (allopathic medicine):  
mechanistic—treat symptoms with scientifically proven methods.
- Eastern medicine (quite ancient): devoted to holistic care, treat whole person (mind, body, spirit), not just symptoms.
- The two systems need not compete; they can enhance each other, forming integrative care.

# PHILOSOPHY OF IHM

1. The Natural Healing Power of the Organism.
2. Whole Person Medicine.
3. The Importance of Lifestyle for Optimal Health.
4. The Critical Role of the Practitioner-Patient Relationship.
5. Natural, Less Invasive Approaches.
6. Evidence-guided approaches when possible.
7. Combines a variety of healing modalities.
8. Recognizes the healing power of unconditional love; and providers to lead by example.

# SWING OF THE PENDULUM

- Concept of IM not new; pendulum has swung from one extreme to another.
- ARISTOTLE (383-322 BC): holistic physician; humans are a combination of spiritual and physical, no separation of mind and body.
- RENE DESCARTES(1596-1650): separated the mind and body; science should focus on body, and church should focus on mind and spirit ("Cartesian split" of mind-body duality); led to "reductionism".
- We are now "swinging" back towards Aristotle's holistic philosophy.

# WHY INTEGRATIVE ONCOLOGY?

- Most patients with cancer want integrative care.
- As many as 90% of cancer patients are already using other therapies while receiving conventional treatment.
- Integrative therapies can improve a patient's quality of life and perhaps survival.
- It may lead to cost-savings.

# INTEGRATIVE CONSULTATIONS

- Emphasis on nurture and wholeness
- Nutrition
- Exercise/body weight
- Nutritional Supplements/NMCD search
- Avoiding toxins
- Stress reduction
- Emotional well-being
- Spiritual connection
- Energy medicine
- Other practices of healing



# ROLE OF INFLAMMATION

- Chronic disease: 90 million, 70% deaths, 75% medical care costs; 1 of 2 Americans
- Underlies heart disease, diabetes, chronic pain, asthma, inflammatory gut disorders, DJD, obesity, Alzheimers, and CANCER.
- Pharmaceuticals: suppress symptoms
- Markers: CRP, IL-6, TNF, ILGF-1, prostaglandins
- Triggers: poor nutrition, sedentary life, chronic stress, environment
- 60% preventable by healthy diet

# ANTI-INFLAMMATORY DIET

- Reduce omega 6, increase omega 3.
- 5-9 servings/d veggies > fruits, rainbow.
- Whole grain carbs, 25 gm fiber, avoid refined carbs/sugars.
- Protein: plant-source preferably (legumes, nuts, seeds), limit animal source protein, limit dairy.
- Two servings fatty fish/week.
- Extra virgin olive oil: liberal use.
- Spices and Asian mushrooms into cooking.
- 70% dark chocolate: occasional treat.
- Eight - 8 ounce glasses of water a day.

## NUTRITION: PHYTOCHEMICALS

- Plants (grains, fruits, vegetables, herbs, spices): contain vitamins, essential minerals for good health, but also contain healing compounds (phytochemicals) that stimulate cellular pathways.
- Phytochemicals inhibit cancer growth, prevent angiogenesis, and cause apoptosis.
- People who eat the most fruits and vegetables have the lowest incidence of all types of cancer.

## NUTRITION: PHYTOCHEMICALS

- Cruciferous vegetables (sulforaphane): anticancer, especially breast cancer.
- Fruits (flavonoids): cancer preventative effects.
- Many chemotherapies derived from plants (paclitaxel from yew tree, vincristine from red periwinkle, camptothecin from Chinese tree *Camptotheca acuminata*).

# BOTANICALS/SUPPLEMENTS

- Whole foods: best source.
- Herbs (botanicals) and other dietary supplements: cancer prevention, manage chemo side effects, improve chemo efficacy, prevent relapse.
- Greatest clinical evidence: garlic, curcumin, green tea, resveratrol, artemisinin, mistletoe, quercetin, bromelain, milk thistle, astragalus, ashwagandha, and medicinal mushrooms (turkey tail, reishi, shitake, maitake).

# GARLIC (ALLIUM SATIVUM)

- Inhibitory to malignancies, decreases carcinogen damage, boosts immune system.
- Cut/crush: activates antineoplastic enzymes.
- Aged garlic: S-allylcystein, S-allylmercaptocysteine
- Apoptotic, immune modulating (gastric, prostate, endometrial, breast, colon, lung, myeloma).
- Enhances anticoagulation

# CURCUMIN (CURCUMA LONGA)

- Polyphenol, member ginger family; turmeric or Indian saffron.
- Chemoprevention and treatment of cancer.
- Diverse mechanisms (downregulate NF-kappa B and COX-2, suppresses cyclin D1 and IL-6).
- Antioxidant, reduces DNA adducts, induces apoptosis.
- Data in breast, prostate, ovarian, lung, pancreas, head and neck, melanoma, renal, lymphoma, leukemia, colon, more).

# CURCUMIN

- Interferes with angiogenesis, inhibits mets by decreasing cancer cell motility and invasiveness.
- Limited bioavailability: need for piperine or oil (liposomal formulation).
- Safe, up to 8 grams daily; some data with chemotherapy and radiation.
- Caution with Cytosol use; avoid in bile duct obstruction, gallstones, stomach ulcers/hyperacidity.



# GREEN TEA (CAMILLIA SINENSIS)

- Comprised of polyphenols (catechins and gallocatechins, EGCG).
- Interferes with carcinogenesis and metastasis, assists DNA of healthy cells, inhibits neoplastic.
- Most inhibitory: breast, esophagus, liver, lung, skin, gastric cancer, CLL.
- Cancer prevention, treat early stage cancer.
- Herb-drug interactions (Tamoxifen incr, irinotecan and bortezomib decr).
- Contains caffeine: EGCG 100-400 mg/cup

# MILK THISTLE (SILIMARIN)

- Chemoprevention; treat liver disease.
- Polyphenolic flavonoid antioxidant: apoptotic, antiproliferative, antiangiogenic.
- Inhibits tumor cell formation in prostate, breast, cervix, oral, and hepatocellular cancers.
- Reduces liver toxicity with chemo in children with ALL, inhibits cisplatin nephrotoxicity.
- Synergistic cytotoxicity with cisplatin and doxorubicin.
- Typical dose 210 mg TID.

# ASTRAGALUS MEMBRANACEUS

- Use in Asia for centuries; immune-stimulatory effects, potentiates lymphokine-activated killer cells.
- Prevent immunosuppression caused by chemo.
- Potentiate effect of chemotherapy, improve cancer-related fatigue.
- Data: liver, gastric, breast, colon, lung cancer, and leukemia.
- Dosing: 2-6 grams daily powdered root.

# ASHWAGANDHA (WITHANIA SOMNIFERA)

- Ayurvedic herb; Indian ginseng.
- Tonic herb/adaptogen, help in coping with stress.
- Cytotoxic, immunomodulating, radiosensitizing effects, enhances chromosome stability.
- Evidence: reduced growth of breast, CNS, colon, lung cancer cells, not normal cells.
- Prevented chemo (CTX) induced neutropenia in mice.
- Breast cancer patients: decr. Chemo fatigue, improved QOL.
- Promotes tumor kill effect of radiation in animals.

# MEDICINAL MUSHROOMS

- Turkey Tail (*Trametes versicolor*), Reishi (*Ganoderma lucidum*), Shiitake (*Lentinus edodes*), Maitake (*Grifola frondosa*), and Schizophyllum Commune.
- Mushroom polysaccharides stimulate immune system, activate NK, T-, B-cells and macrophages.
- Role in prophylaxis, prevention, and adjuvant treatment with chemotherapy.
- Much data in animals, more human trials needed.

# OTHER NUTRACEUTICALS

- Ginkgo biloba (cognitive function)
- Branched chain amino acids (cachexia)
- Black cohosh extract (hot flashes)
- L-glutamine (mucositis, diarrhea, neuropathy)
- CoQ10 (myocardial function)
- Acetyl-L-Carnitine, Alpha lipoic acid (neuropathy)
- Fermented wheat germ extract (fatigue, improves social, physical and emotional wellbeing)
- Probiotics (recovery of normal intestinal flora and healthy immune function)
- Boswellia serrata (cerebral and joint inflammation)

# IV VITAMIN C

- Vitamin C (ascorbic acid) has tumoricidal effect on many cancers, can enhance chemotherapy effect, and reduce toxicity of conventional therapies.
- Low doses: antioxidant, high dose: prooxidant, inducing hydrogen peroxide production (normal cells make catalase, tumor cells deficient).
- IV but not oral vit C achieve tumoricidal blood levels.
- Linus Pauling, Nobel Prize laureate, studied high dose IV vitamin C in cancer treatment.
- 500 patients/varied cancers and stages/8 year period: 10 g/day IV: improved appetite, alertness, decreased pain med needs, longer survival.

# IV VITAMIN C

- Hugh Riordan (Wichita, Kansas): 15 g IV vit c twice/week in male with advanced RCC, escalated to 30 g twice weekly: tumor response in 6 weeks, CR in 12 weeks.
- Further studies done by Riordan demonstrating 50-75 g IV twice weekly most therapeutic.
- Mayo Clinic did placebo controlled double blind study and followup study showing no benefit: studies criticized due to use of oral vit c.
- More research is needed re: most active dose, which tumor types most sensitive, and need for larger controlled trials (most data case series, anecdotal).



# IV VITAMIN C

- Large doses of vit C should be reached gradually to establish tolerance (15g, 25g, 50g, 75 g)
- Side effects: RARE (lethargy, thirst, vein irritation, kidney stones (oxalate), hemolysis, muscle cramps, HA, N/V, elevated glucose, pain at tumor site).
- Avoid in: G6PD deficiency, PNH, renal stones, renal failure/dialysis, iron overload.

# EXERCISE/BODY WEIGHT

- Regular physical activity and maintaining a healthy body weight can help to **prevent** cancer.
- Exercise can decrease the following: tension, depression, fatigue, anxiety, hostility, drug use, back pain, blood pressure, pulse, heart disease, cholesterol level, and stroke.
- Exercise can increase self esteem, positive attitude, joy, mental function, creativity, energy, quality of sleep, and survival after a cancer diagnosis.

# EXERCISE/BODY WEIGHT

- Exercise is the best “drug” for quitting smoking and for achieving weight loss.
- Regular vigorous exercise can be as effective as antidepressants and the benefit more durable and without the harmful side effects of drugs.
- Strive for 30 minutes aerobic exercise 5 or more days of week and add some resistance exercise for strength.
- Encourage “lifestyle exercise”.
- Encourage getting outdoors in nature.

# OBESITY/METABOLIC SYNDROME

- Obesity, metabolic syndrome, insulin-resistance: increased cancer risk.
- Adipose tissue makes adipokines, which trigger systemic inflammation.
- Inflammation: CAD, DM, arthritis, cancer.
- Connection between inflammation and cancer prognosis (CRP).

# AVOIDING TOXINS

- Behavioral modifications can decrease cancer risk: avoiding tobacco use, excessive sun exposure, and excessive alcohol.
- Filter drinking water.
- Choose "green" cleaning products for our homes.
- Eat organic.
- Avoid cooking or storage in plastic.
- Minimize cell phone and microwave use.
- Avoid pesticides and product chemicals.

# STRESS REDUCTION

- Reducing stress is essential for healing and balance of the mind, body, and spirit.
- Many studies have confirmed that ongoing stress can *contribute* to the development and progression of cancer.
- We cannot always avoid stress (divorce, death of a loved one, loss of a job, serious illness), but we can choose stress-reducing activities that will minimize the impact

# STRESS REDUCTION MODALITIES

- Exercise/movement
- Massage
- Prayer
- Social support/psychotherapy groups
- Journaling
- Tranquil music and a warm bath
- Play and laughter
- Practicing forgiveness and gratitude

# MIND-BODY THERAPIES

## FOR STRESS REDUCTION:

- Relaxation breath
- Biofeedback
- Enhancing heart rate variability (HeartMath)
- Hypnosis
- Guided Imagery
- Meditation/MBSR
- Qigong, Tai Chi
- Yoga





# ENERGY (VIBRATIONAL) MEDICINE

- Important part of an integrative approach, yet the most controversial.
- Conventional medicine views body as a machine; vibrational medicine views body as network of complex energy fields.
- Disease begins in the energetic aura.
- Illness due to bacteria, toxins, trauma, as well as longterm dysfunctional emotions.
- Use of different forms of energy to rebalance our energy networks to promote healing.
- Vibrational healing can enhance immunity and may decrease growth and activity of cancer cells.

# ENERGY MEDICINE

- Practitioners of energy healing use Universal Life Force Energy ("Ki", "Chi", or "Prana").
- Use of this universal energy unblocks the flow of energy through the body's channels and balances the chakras, allowing healing to occur.
- Many different forms of energy healing exist; some involve physical contact of the healer and patient, and some not.





# ENERGY HEALING MODALITIES

- Free flow of life force energy supports health; blockages cause disease; illness is seen in the aura; rebalance energy in healing.
- Reiki, Healing Touch, Pranic Healing, Therapeutic Touch, Polarity Therapy
- Clinical trials with mixed results, but improved mood, QOL, immune parameters; more data needed.

# REIKI



# Healing Through the Senses

- Aromatherapy/flower remedies
- Visual art Therapy
- Dance Therapy
- Humor Therapy
- Light Therapy
- Music Therapy
- Sound Therapy

# ANCIENT HEALING

- Acupuncture
- Traditional Chinese Medicine
- Ayurveda
- Homeopathy
- Shamanism
- Naturopathic Medicine



# EMOTIONAL WELL-BEING

- Achieving and maintaining a healthy frame of mind is crucial to nurture the health of body and spirit.
- *Our thoughts are tremendously powerful, and this is unrecognized or underemphasized in conventional medicine.*
- "Stinking Thinking": negative inner chatter many of us have about ourselves or others. These thoughts can be destructive over time, causing anxiety, fear, and depression, impeding the healing process.
- We can reverse this behavior with affirmations (positive statements that help to condition the mind, such as "I am healthy and at peace").

# SPIRITUAL CONNECTION

- Spirituality: related to but distinct from religion, focused on purpose, meaning, and connectedness with self, others, and a higher power; interconnected with health and well-being.
- Studies show religious service attendees have less heart disease, HTN, depression, and drug abuse, with more acceptance of end of life, as well as longer survival, less likely to commit suicide, better rate of quitting smoking.
- Group prayer beneficial in CCU and AIDS patients.
- Forgiveness: fewer illnesses and chronic conditions in forgivers, creates peace and healing in the forgiver.

# CHALLENGES OF INTEGRATIVE CARE

- Our current philosophy of treating illness (belief system). "Back-End Medicine", "Disease-Management System".
- Our approach in medical education.
- Lack of financial priority of prevention and wellness.
- Our priorities in the food industry.
- Needed funding to conduct research on natural products/integrity.
- Our broken health care industry.

# LOVE THY ENEMY

- Change view on cancer ("Battling cancer", "War on cancer"). Undo military model of thinking.
- Universal Spiritual Law: "What we resist, persists."
- Dr Bernie Seigel: "Don't battle the disease—you empower your enemy. Just heal your life, with self-induced healing".
- We tend to create, in our lives, what we focus on... we should focus on improving health, not on fighting the cancer.
- We should focus on love, and on removing fear and ego, and on nourishing and strengthening the person with the disease, making it less hospitable for cancer growth.

Patient: Doctor, I don't feel well and I'm not sure why.



Doctor: I want you to meditate for 20 minutes, twice a day, exercise for at least 30 minutes a day, avoid processed foods, eat plenty of organic fruit and veg, spend more time in nature and less indoors, stop worrying about things you can't control and ditch your T.V. Come back in 3 weeks.