Integrative Solutions in Breast Cancer

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With thanks to
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Basis of integrative treatments

- Cancer cells have **lost their ability to communicate properly** and to receive growth control messages from adjacent cells.
- With cytotoxic treatments, the **odds of treatment-related adverse events can be greater than the probability of clinical benefits**.
Basis of integrative treatments

- If instead the focus is on up-regulating and supporting the intra-cellular and extra-cellular functions that normally operate to remove rogue cells, few side effects can be expected.
- Slow, methodical is better than aggressive (slows development of resistance).
The Triphasic Model

- The human being – Spirit, Mind, Body
- The surrounding environment
- The biology of the cancer – assessing and targeting the cancer characteristics
In post-menopausal women with breast cancer, the risk of dying for those with intake in the highest third vs. the lowest third of:

- Fiber – 52% less
- Vegetables – 43% less
- Fruit – 37% less
- Fat – 212% more

Nutr Cancer 2006;55(2)p132
Red meat

- Compared with premenopausal women eating <4 servings per week, those eating >1.5 servings daily had double the risk of ER+/PR+ breast cancer

- Arch of Internal Med 2006 Nov 13 166:2253-2259
CocaCola

- Given to rats, increased their risk of breast cancer
  - Science 2006;1076 p. 736
Onions

- The highest onion consumers had a 25% lower risk of breast cancer
- The highest garlic users had a 10% lower risk
  - American J Clinical Nutrition 2006 Nov p. 1027
Nutrition

• **Avoid inflammatory omega-6 foods** (foods with high arachidonic acid content, the precursor to prostaglandins E2) – *animal meat, milk products, processed foods*

• **Balance macronutrients**: protein, healthy fat, fiber, and complex carbohydrate with each meal & snack to slow and block uptake of sugar
Nutrition

- Increase anti-inflammatory omega-3 fatty acids (wild salmon, sardines, walnut, flax – tuna has excess mercury); this thins the blood protecting against metastasis and angiogenesis
- 95% of all toxins are in meat and milk products, primarily stored in the fat; when eaten by humans they are stored in fatty tissues such as the breasts
Nutrition

- Zinc, selenium, magnesium, and iodine are deficient in cancer patients; copper is often elevated in proportion to cancer progression.

- Vitamin D₃ 25OH deficiency could be a cause in up to half of all cancer; 1100IU of vitamin D₃ with 1500mg of calcium daily in post-menopausal women was associated with a 60% decline in cancer the first year, a 77% reduction years 2 – 4.
  - American Jour Clinical Nutrition June 2007;85(6):1586-91
Obesity

- Compared to women weighing <133 lb, those weighing >175 lb had a 2.5-fold greater risk of dying from breast cancer
Typically, cancer patients feel panic when they are diagnosed. This increases epinephrine and cortisol. Epinephrine increases blood glucose, which facilitates cancer growth. Cortisol suppresses the immune system, increases blood glucose, and increases clotting, all of which promote cancer.
Spirituality

- Cancer represents an opportunity for patients to come to terms with their spirituality, to define their place in the universe.
- Reminding patients that near-death experiences have taught us death is usually very blissful, can be comforting to patients.
- Patients can learn to meditate and do spiritual reading daily.
Environment

- **Xenoestrogens** – environmental chemicals that stimulate estrogen receptors
  - Phthalates in plastic
  - PCBs in farm-raised fish
  - Dioxin (Agent Orange) is spewed from smokestacks, falls on the grass which is eaten by cows and stored in fat. The fat is marbled in red meat so that it is difficult to cut out.
Increased body weight leads to increased body fat; body fat has leptin which facilitates the aromatase conversion of testosterone to estrogen.

Increased consumption of sugar and the ‘white’ foods - bread, cereal, rice, pasta, and potatoes - raises blood glucose triggering insulin which acts like a growth hormone, stimulating cancer growth.
Environment

- **Stress** can be at work, home, or from a breakdown in the patient’s support network
  - This leads to increased epinephrine and cortisol
- The **liver** is overloaded trying to metabolize environmental pollutants, fat and sugar that cause fatty liver, and alcohol
  - This impairs estrogen metabolism, increasing estrogen levels
Environment

- **Antibiotics** alter the intestinal flora, resulting in increased lysis of *estrogen* metabolites bound to glucuronic acid; this leads to increased *estrogen re-absorption*.
- Inadequate **fiber** and **constipation** also may result in increased estrogen re-absorption.
- **Magnesium** deficiency resulting from eating processed foods may facilitate constipation.
Environment

- Acid suppressing drugs reduce absorption of magnesium, leading to constipation, and zinc, which is necessary for normal immune function.
- Normal cell and immune function is dependent on normal hormone levels.
  - Cholesterol-lowering drugs reduce hormones, which are produced from cholesterol.
Genes can facilitate cancer
- The environment, beginning in utero, controls which genes are expressed (epigenetics)
- Food choices play a substantial role in determining gene expression
Medication

- Oral contraceptives contain estrogen, stimulating hormone-sensitive tissues
- Hormone replacement therapy, especially estrogen without progesterone in pre-menopausal women, stimulates hormonal cancer
Medroxyprogesterone (MPA)

- MPA (Provera) increased mammary tumors in mice and dogs
- Progestins promote breast cell proliferation
- MPA also
  - Increased artery spasm in primates
  - Raised LDL cholesterol and lowered HDL
Progesterone

- Pre-menopausally may be protective of breast cancer
  - Low progesterone was associated pre-menopausally with a **5.4-fold increased risk of breast cancer**
  - Amer J Epidemiology 1981;114(2):209-217
Progesterone vs. MPA

- MPA causes fluid retention; progesterone is a diuretic
- Progesterone is calming and can prevent panic attacks; MPA does not
- Progesterone strengthens bones; MPA causes osteoporosis
- MPA blocks progesterone receptors preventing some progesterone benefits
Tissue pathology tests

- Estrogen receptor/Progesterone receptor
- **Ki67 - >10** is strictly indicative of cell proliferation
- CATHEPSIN-D
- P53, p63, PTEN
- Her2-neu
Tissue pathology tests

- **Her1 (EGFr)**
  - 50% of Her2-neu positive are also Her1 positive
- **Histological grade:** mitotic index, S phase expression
- **DNA index**
  - aneuploid unfavorable, diploid favorable
Ki-67 protein expression >10

- Indicative strictly of cell proliferation
- Present during the **active cell cycle**, absent from resting cells
- Required for **progression** through cell cycle
- The **percent** indicates degree of cancer proliferation
Ki-67 protein expression >10

- Radiation increases Ki-67 causing surviving cells to be more aggressive
- High levels indicate chemotherapy sensitivity
- Low levels indicate nutritional/nutrient approaches may suffice
Cathepsin-D (Cath D)

- Metastatic breast cancer cells secrete high levels of cath-D
- Indicates increased risk of metastasis and a stronger tendency to angiogenesis
- Tamoxifen increases Cath-D
- High Cath-D predicts Tamoxifen failure
ER (Estrogen receptor) positive

Aromatase converts testosterone to estrogen

Block aromatase with:

Pomegranate juice 8oz – blocks 60-80%

Breast Cancer Research & Treatment 2002Feb;71(3): 203-17

Zinc – 30-120 mg/day in divided doses; monitor levels
Other aromatase blockers

- **Broccoli** and derivatives (**DIM**, **IC₃**)
- **Green tea** – 4-8 cups daily or more
- **Agaricus** (white button mushroom)
  Cancer Research 2006 Dec 15
- **Resveratrol** with **grape seed extract**
  Cancer Research 2006 June 1 p. 5960
Phytoestrogens

- Intake is associated with lower risk of breast, prostate, colon, endometrial, & other cancers
- Also inhibit osteoporosis, diabetes, heart disease, & other age-related diseases
- Have a great safety profile
- They are 1/300th to 1/400th the potency of estradiol; by binding with estrogen receptors, they block binding of powerful estrogens
Phytoestrogens

- Modulate expression of estrogen-responsive genes
- Modulate insulin
- Inhibit protein kinases
- Elevate PTEN – a cancer suppressor gene
- Inhibit topoisomerase
- Proteasome inhibition
- Redox balance
Phytoestrogens

- Flax seed
- Black cohosh
- Yams
- Red clover
- Hops
Phytoestrogens

- Soy isoflavones
- Don quai
- Shatavari
- Licorice
- Chaste tree
Genestein

- A phytoestrogen from soy
- Reduced post-surgical metastatic spread to the lungs 10-fold in mice with breast cancer
  - Cancer Research 2006 April 15 p3396
HER2-neu

- Over-expressed in some breast, non-small cell lung, pancreatic, ovarian, prostate, and gastric cancers
- May be blocked by:
  - Polygonum multiflorum
  - Aloe vera
  - Both of the above are toxic to cancer cells but not normal cells
EGFR (HER1)

- Nutrients that may block:
  - Quercetin
  - Resveratrol
  - Genistein
  - Curcumin
Cell adhesion molecules (CAM)

- **Cadherins** mediate cell-to-cell bonding
- Decreased **E-cadherin** and increased N-cadherin is seen in high-grade prostate cancer
- **Tangeritin** (in tangerine peels) strengthens E-cadherin; can make a tea from the peels
- **Curcumin, omega-3 fatty acids, and gamma linolenic acid** increase E-cadherin expression
Blood tests to monitor monthly

- White count
- Hemoglobin
- **Platelets** – target lower half of normal range
- **Albumin** – target 4.5 or higher
- **ALT** – target <30 males, <20 females
- **HS C-reactive protein** – <0.8
- **Free T₃** (target 300-400)
Blood tests to monitor monthly

- **Vitamin D 25OH** – target levels of 40-80
- **Zinc** – mid to mid-high normal range
- **Copper** – target the low range of normal; it is **angiogenic** in tumors, correlates with tumor incidence, burden, malignant progression, & recurrence
Blood tests to monitor monthly

- **Ceruloplasmin** – target 20-25; more accurately reflects copper status
- **Fibrinogen** – want to normalize
- **D-dimer** – want to normalize
Vitamin D

- Deficiency is widespread
- **Vitamin D3** is more stable and twice as powerful as vitamin D2 (which should no longer be used)
- Is involved with 20 genes that determine cell proliferation, differentiation, and apoptosis (normal cell death)
- Research has identified 18 cancers so far that it may help prevent, especially hormonal cancer
Vitamin D

- It may be able to arrest cancer
  - 1179 post-menopausal women receiving 1100IU of vitamin D3 in combination with 1500mg of calcium daily
  - 60% decline in cancer incidence the first year
  - 77% decline in cancer incidence in years 2-4

- Amer J Clin Nutrition June 2007
Copper

- Elevated copper and ceruloplasmin levels are associated with the risk of cancer and cardiovascular mortality
  - Cancer Res 1989 Aug 1;49(15):4353-6
- Copper promotes cancer through inflammation and angiogenesis
- Serum copper correlates with tumor incidence, burden, progression, & recurrence in lymphoma, sarcoma, leukemia, cancer of the cervix, pancreas, breast, prostate, liver, lung, and brain
Reducing copper levels reduced the following angiogenic mediators:

- Vascular endothelial growth factor (VEGF)
- Fibroblast growth factor 2 (FGF-2)/basic fibroblast growth factor (bFGF)
- Interleukin-1alpha
- IL-6
- IL-8
- NFkB levels and transcriptional activity
Copper

- **Zinc** is the most effective way to lower copper - 30mg 1 to 4 times daily
  - J Lab Clin Med 2005Mar;145(3):139-43
- Clinically other nutrients have helped:
  - Molybdenum (1-6mg)
  - Green tea extract
  - Grape seed extract
  - Isothiocynates
  - N-acetyl cysteine
  - Cilantro
Other blood tests

- TSH, free T₄
- Ferritin – 40-200
- Uric acid - 3-7 (low means excess oxidative stress)
- Estradiol - 6-30
- Estrone sulfate
- 2:16 alphahydroxyestrone ratio
Other blood tests

- CA27.29 - <35
- Prolactin - <12 (sage can lower; can use in tea)
- CA 9
Carbonic Anhydrase 9 (CA 9)

- When this is normal, the tumor will be insensitive to radiation due to hypoxia (radiation requires oxidation; it creates oxygen free radicals)
  - C.C. Wykoff et al., Cancer Res. 2001;60:7075-7083
Biopsy - chemotherapy sensitivity

- Test tumor biopsy for chemotherapy sensitivity
- Clinically, this is **proving highly effective** in ruling out chemotherapies that will not work
- Requires use of a **fresh specimen** and special kit
- Costs $3000 - $5000; not covered by insurance
- Testing sites:
  - Rational Therapeutics
  - Weisenthal
Needle Biopsy

- Of a cancerous breast lump increases risk of metastasis to the sentinel node 50% relative to excision of the lump

- Archives of Surgery 2004;139:634
Impact of surgery

- Provides tissue to test for cancer markers and sensitivity to chemotherapy
- Releases tumor cells into the bloodstream
- Is stressful, suppressing the immune system
- The primary tumor suppresses angiogenesis in metastases.
**Impact of surgery**

- **Surgery** also invokes hormone signaling to **stimulate blood vessel growth (including to metastases)** to promote wound healing
  
  Charlette FJM et al. Int J Cancer 2004;112:554-9

- Removes **nm-23** secreted by the primary tumor that **inhibits growth of metastases**
Impact of surgery

- In breast cancer, this appears to be especially true in young women with positive nodes
Surgery in breast cancer

- Other suggestive studies of metastatic impact
  - Breast cancer recurrence dynamics following adjuvant CMF is consistent with tumor dormancy and mastectomy-driven acceleration of the metastatic process. Demicheli, D AnnOncol2005Sep;16(9):1449-57
Surgery in breast cancer

Impact of radiation

- In cancer found on mammograms, radiation improved breast cancer survival.
- However, due to heart toxicity, it increased all cause mortality.
  - Lancet 2000;355 p1757-70
- Breast cancer radiation on the left breast from 1971-1988 increased death from cardiovascular disease by 27%.
  - BMC Cancer 2007 Jan 15
Impact of radiation

- If the cancer was in the left breast, the risk of heart damage is high
- Premature death in these radiation patients is primarily due to heart disease
- If cancer re-emerges, it is particularly aggressive (more difficult to treat)
Impact of radiation

- Radiation after lumpectomy reduces local recurrence but did not reduce mortality or distant spread.
- In a pooled analysis, radiation was associated with an excess mortality of 8.6% in women <65 years old.
  - Lancet 2004 Sept 11 p. 916
Impact of chemotherapy

- Use of **adriamycin** is associated with substantial **cardiac toxicity** that may neutralize its benefit
- **Herceptin**’s effectiveness may be improved 70% by **olive oil** and **gamma linoleic acid**
- Clinically, botanicals have proven to substantially augment **Herceptin**
- **Taxanes** may work better with **boswella** and **feverfew**
Impact of chemotherapy

- Breast cancer chemotherapy leads to hospitalization or an emergency room visit 16% of the time
  - J National Cancer Institute August 2006
- Clinically, integrative approaches are substantially reducing chemotherapy side effects and are allowing for use of half-dose (or less) chemotherapy
Tamoxifen

- Reduced breast cancer from 6.3 to 3.6 per 1000, and fractures were reduced
- Uterine cancer increased 3-fold from 0.7 to 2.2
- Pulmonary embolism increased from 0.3 to 0.7
- Stroke risk trended higher
  - J National Cancer Institute 2005 Nov16 p1652
Tamoxifen

- With **gamma linoleic acid**, may be effective in suppressing brain tumors
- **Black cohosh** appears to reduce breast cancer risk and **potentiates tamoxifen**
- Women **recovering from breast cancer** when fully informed about Tamoxifen, **chose to initiate Tamoxifen less than 20% of the time.**
  - Cancer 2005, British Med J USA 8/05 p374
Tamoxifen

- Adding Coenzyme Q10 100mg, niacin 50mg, & riboflavin 10mg to tamoxifen reduced CEA and CA 15-3 markers indicating reduced breast cancer metastasis risk (which is the cause of death in breast cancer).
  - BiolPharmBull 2007;30(2)p367
COX-2 Inhibitors

Block cancer genes & inhibit blood vessel growth i.e. block cancer occurrence & growth  
Jour American Medical Assoc 2005 Jul 6 p.30  
There are many natural COX-2 inhibitors including turmeric, ginger, and fish oil
Nutrition

- Whole food, plant-based organic diet
- Avoid all red meat, milk products, and processed food
- Omega-3 fish except tuna (due to high mercury)
- Tilapia is ecologically produced
- Organic eggs provide excellent protein and should be strongly encouraged
- Drink only water and green tea
  - Juices have too much sugar; eat the fruits instead
Spirituality

- Eliminate job stress
- Be surrounded by supportive family members
- Encourage cultivation of a support network
- Spend time in nature and with pets
- Utilize music therapy
Spirituality

- Encourage spiritual reading and counseling
- Practice a positive attitude
- Support groups are extremely important
- Encourage daily meditation and/or prayer
Exercise

- Encourage daily aerobic exercise e.g. walking with a family member
- Consider Yoga, Tai Chi, Chi Gong
- Mild-moderate anaerobic exercise may also be beneficial
Nutrients

- **Vitamin D3** – 2000IU (up to 6000IU until obtain optimal blood levels)
- **Zinc** – 30 – 120mg daily in divided doses based on blood levels
- **Copper** – first use zinc (30mg 1-4 times daily) to lower; when zinc is high normal use molybdenum (1-6mg daily) to lower copper to low normal
- **Magnesium** – keep RBC magnesium in high normal range
Nutrients

- **Adaptogens** – herbs that support vitality while demonstrating immune-enhancing properties
  - *Rhodiola rosea* (stimulates while reducing stress)
  - *Eleuthero* (formerly siberian ginseng)
  - *Panax ginseng*
  - *Astragalus*
  - *Ashwagandha* (calming, supports a quiet strength)
  - *Cordyceps*
Panax ginseng

- Regular use prolonged life, reduced recurrences, and increased the quality of life compared with those who did not take ginseng.
- The source of ginseng is critical; 80% of specimens do not contain the active ginsenosides.
Anabolic agents for Cachexia

**Whey protein** - highest biological value of any protein

Glutamine, **covalent bonded** – also enhances chemotherapy & reduces its toxicity, better absorbed

**Creatine**

**Luzea**

**Fish oil**
Angiogenesis inhibitors

- **Chinese wormwood** (Artemisia annua) – reduces VEGF and KDR/flk-1, inhibits NFkB
- **European mistletoe** (Viscum album) – reduces VEGF, induces apoptosis, better survival
- **Chinese magnolia tree** (Magnolia officinalis)
- **Milk thistle** (Silybum marianum)
  - reduces VEGF & EGFR e.g. in ovarian cancer endothelium
Angiogenesis inhibitors

- **Turmeric** (Curcuma longa) –
  - can increase *tumoricidal* effects of *chemotherapy* and *radiation*
  - inhibits VEGF & Bfgf
  - interferes with MMP-2 & MMP-9
  - inhibits EGFR
  - blocks COX-2 & IL-8
  - No toxicity up to 8000mg/day, peaks at 1-2 hours, lasts 12 hours
Angiogenesis inhibitors

- Resveratrol and proanthocyanidin –
  - inhibits HUVEC division, weakens MMP-2, inhibits VEGF, demonstrated in rat gliomas
  - Proanthocyanidin (from grape seed extract & berries) reduces VEGF.
Angiogenesis inhibitors

- **Green tea** (Camellia sinensis)
  - inhibits VEGF, may suppress *breast cancer*, reduces *protein kinase C*.
  - **Dose**: 120ml equivalent (7-8 cups) 3 times a day; 2-4gm of green tea extract (95% polyphenols/60% catechins) is a lower dose often used.
  - **Side effects**: gastrointestinal & caffeine effects (but caffeine may help).
Angiogenesis inhibitors

- **Ginkgo biloba** – reduces VEGF
- **Quercetin** – blocks COX-2, LOX-5, EGF, HER-2, NFkB, may enhance tamoxifen through antiangiogenesis
- **Poria cocos** – downregulates NFkB, inhibits platelet aggregation
Angiogenesis inhibitors

- **Ginger** (Zingiber officinale) – inhibits VEGF and bFGF, blocks capillary-like tubules, strongly inhibits the sprouting of endothelial cells in rodent models
- **Rabdosia** (rabdosia rubescens)

- Yance, DR, Sagar, SM: Targeting Angiogenesis with Integrative Cancer Therapies. Integrative Cancer Therapies 5(1);2006:9-29 256 references are listed for this article
Curcumin in Cancer Care

- 80% of turmeric is curcumin
- Acts on NF-kB, AP-1, STAT3, Akt, Bcl-2, Bcl-X(L), caspases, P-PARP, PIK-3CA, CDK, p21, WAF1/CIP1, P27KIP1, EGFR, HER-2, bFGF, JNK, MAPK, COX-2, 5-LOX, MMP-2 & 9;, TNF-related apoptosis-inducing ligand (TRAIL), death receptor 5(DR5), IL-6 & 8, & P53
Curcumin in Cancer Care

- Antimetastatic protein expression of TIMP-2, Nm23, and E-cadherin is increased
- Guards against damage from reactive oxygen species while selectively up-regulating reactive oxygen species damage to cancer cells

Cruciferous vegetable derivatives

- **Isothiocyanates** (from crucifers e.g. broccoli, cabbage, Brussels sprouts)
  - In *prostate cancer* cell line, inhibited via AP-1 and MAPK suppression
Cruciferous vegetable derivatives

- **Sulforaphane** (from crucifers)
  - Stimulated apoptosis via p53-independent means, Bcl-2 modulation, ROS and JNK-mediated G2/M arrest, **autophagy** induction, **histone deacetylase** inhibition, **HDA** inhibition
  - Stabilized p53, suppressed **apoptosis inhibitors**, increased **BAX** activation
Wasabi

- **Wasabi** contains many unique isothiocyanates
- Extracts have shown repeated benefit in:
  - Melanoma
  - Stomach cancer
  - Breast cancer
  - Prostate cancer
  - Colon cancer
DIM (a crucifer derivative)

- A dimer of indole-3 carbinol (I3C) that is more stable and has greater anti-cancer effects
- Altered estrogen metabolism away from 16-hydroxylation toward favorable 2-hydroxylation
- Blocks estrogen receptors from more stimulating estrogens
- Induced phase I and phase II carcinogen metabolism
DIM

- I3C, unlike DIM, can be metabolized unfavorably to the 4-hydroxy metabolite
- Inhibited expression of cyclin-dependent kinase-6
- Induced a G1 cell cycle arrest in ER negative breast cancer
- Inhibited MDR
DIM

- Induced apoptosis in breast cancer cells independent of estrogen receptor status via Bax/Bcl-2 apoptotic factors & NFκB pathways
- Induced G₁ cell cycle arrest via selective inhibition of cyclin-dependent kinase 6 expression and p21 (Waf1/Cip1) stimulation
- Greatly reduced EGFR
Quercetin

- Inhibited cell growth in cancer cell lines of:
  - Breast
  - Prostate
  - Ovarian
  - Squamous cell
  - Cervical
Quercetin

- Bladder
- Gastric
- Acute myeloid and acute lymphocytic leukemia
- Some lymphomas
Quercetin

- Redox/antioxidative
- Modulates COX and LOX, inhibiting PGE-2
- Inhibits cancer angiogenesis
- Down-regulated tumor promoters EGF & HER2-neu
- Activates PTEN
- Inhibits mutation of p53
Quercetin

- Inhibited mutation of p53
- Activated caspase-3, Bax, and Bak
- Elevated p21 and p27
- Down-regulated estrogen binding
- Reduced circulating IGF, increasing IGFBP
Quercetin

- Down-regulated NFkB, AP-1, Bcl-2, TNF-alpha, MMP-2 and 9, cyclin D and E
- Down-regulated expression of heat shock protein 70
- Improved chemotherapy effectiveness
- Improved radiation therapy effectiveness
Coenzyme Q10

- Supports cellular energy through **mitochondrial support**
- **Deficiency** is associated with an **8-fold** increased risk of breast cancer
- At 390mg daily reported to have produced breast cancer resolution with and without chemotherapy
Other Nutrients

- **Melatonin**
  - Cancer Research 2005 Dec p. 1174
- **Vitamin E succinate**, tocotrienols
- **Selenium** 200-600mcg
- **Iodine** (get from seaweed)
- **Bromelain** – to support normal fibrinogen levels
Breast Cancer Case Study

- 71 year old female diagnosed with invasive lobular breast cancer in 1999
- Chose not to have surgery
- Managed by a progressive physician
- Developed bone metastases in the fall of 2006, confirmed on MRI
Breast Cancer Case Study

- She was initially seen at our office then but decided not to follow our support protocol
- Her weight dropped from 120 pounds, reaching 80 pounds in July, 2007 she reported, when she suffered a vertebral compression fracture
Breast Cancer Case Study

- When she phoned us, we started her on a non-denatured whey protein supplement containing glutamine and creatine, a second supplement containing anabolic herbs, fish oil liquid, and advised her to eat 5-6 eggs daily.
- At the office visit later that month she walked holding onto the walls and she had diminished vitality
- She was experiencing pain in her rib cage and spine
Breast Cancer Case Study

- She reports her weight quickly rising to 90lbs.
- On an office visit in September, her weight had risen to 99.8lbs, she was walking reasonably well without assistance, and she displayed vitality and a positive spirit. She only rarely took opioid pain medicine.
- She agreed to initiate other recommendations
Breast Cancer Case Study

- At a subsequent visit, pain in her rib cage and spine had resolved, but she had developed discomfort in her pelvic bones
- A PET scan confirmed wide spread bony involvement
Breast Cancer Case Study

- As she still has her primary breast tumor, this can be biopsied at any time, tested for sensitivity to various chemotherapy drugs, and an appropriate chemotherapy chosen.
- As she is now following a comprehensive support protocol, she might do well with half-dose chemotherapy and side effects may be muted.
Breast Cancer Case Study

- Further, resistance to chemotherapy may be minimized by the support protocol resulting in it being effective for a prolonged time. She could be expected to live many years on consecutive chemotherapies.
Copy of Talk - References

- E-mail me at jproach@aol.com for a copy of this power point presentation

- Additional nutrient references will be given associated with my prostate cancer talk tomorrow and will be available by e-mail
Training, Sources, and Protocols

- Opportunities for training in integrative cancer approaches are available

- Information on combination product sources can be e-mailed

- Specific protocols will be available in the near future
Summary

To be fully successful it is essential to optimize:

1) Nutrition
2) Spiritual vision
3) Supportive home/work/social environment
4) Blood test parameters
5) Optimal nutrient support
6) Targeted chemotherapy when necessary
To support **education** of integrative medicine concepts

To support **medical education** of integrative concepts

To be a resource in **cancer, autoimmune & thyroid disorders, chronic fatigue-fibromyalgia, and hormonal imbalance**

Our focus includes **longevity, optimal brain health, wellness, optimal nutrition, & student health**

Your support would be **very valuable**

PO Box 277, Midway, KY 40347