

Acupuncture and Integrative Medicine as a Support System for Brain Tumor Treatment

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Integrative Medicine is a part of Modern Medicine

Mainstream Medicine

– Allopathic Medicine

CAM

– Complimentary and Alternative Medicine





NCCAM Groups CAM Modalities Into Five Major Domains

Alternative Medical Systems

- Traditional Oriental Medicine and Homeopathy

Mind-Body Intervention

- Meditation, Imagery, Relaxation

Biologically-Based Treatments

- Herbals, High-Dose Vitamin Therapy, Enzyme Therapy

Manipulative and Body-Based Approaches

- Massage, Yoga, Chiropractic

Energy Therapy

- Qi Gong, Reiki, Therapeutic Touch



An Increasing Number of Brain Tumor and Cancer Patients are Turning to Complimentary and Alternative Medicine (CAM)



CAM use among cancer patients is diverse and varies by region

- National Center for CAM estimates

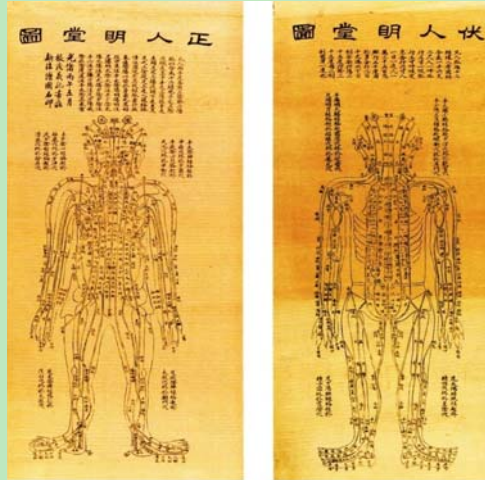
» 7-54% of cancer patients use CAM

» 48-88% of cancer patients used CAM while being treated
in comprehensive cancer centers in the USA



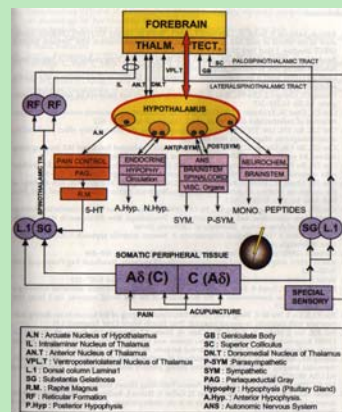
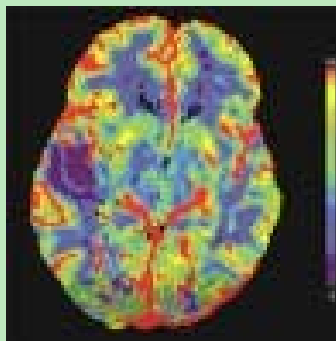
How Acupuncture Works

The Eastern Philosophical Point of View



How Acupuncture Works

The Western Medical Point of View

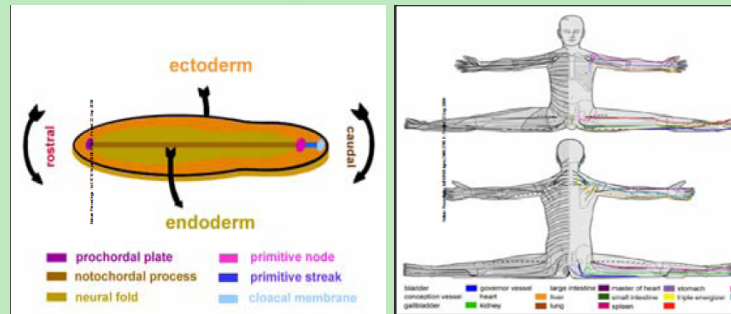


From "Neuro-Acupuncture", Cho ZH et al, Q-puncture, Inc, 2001



Principle Meridians as TCM's Representation of the Nervous System

- Adult body arranged in sixth-week developmental position shows linear dermatomes and peripheral nerve distribution
- Linear patterns mirror Principal meridians.
- Autonomic branches of peripheral nerves and sympathetic innervation of corresponding vasculature account for non-local effects

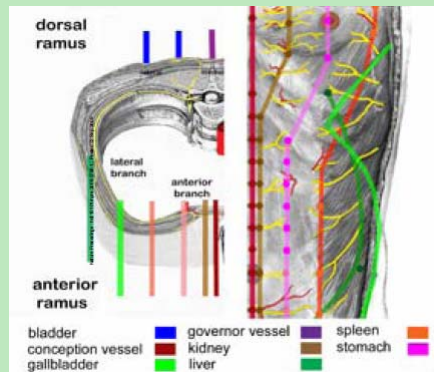


From "The Neuroanatomic Basis of the Acupuncture Principal Meridians", Dorsher PT, Mayo Foundation for Medical Education and Research 2009



Principle Meridians as TCM's Representation of the Nervous System

- Band-like innervations of trunk consistent with segmental organization of trunk meridians



From "The Neuroanatomic Basis of the Acupuncture Principal Meridians", Dorsher PT, Mayo Foundation for Medical Education and Research 2009



Clinical Applications of Acupuncture for Patients with Brain Tumors

Chemotherapy Related Side Effects

- Myelo-suppression: with leucopenia, thrombocytopenia, anemia
- Nausea
- Vomiting
- Mucositis (mucus membrane ulceration)

Radiotherapy Induced Symptoms

- Xerostomia (Dry mouth condition caused by radiation)

Symptom Management

- Cancer Pain



Other Symptoms as a Result of Chemotherapy Toxicity

Other Symptoms

CNS Toxicity

- Insomnia
- Fatigue
- Mood Disorder
- Feeling a Loss of Control

Loss of Appetite

Weakened Immune System

Alopecia





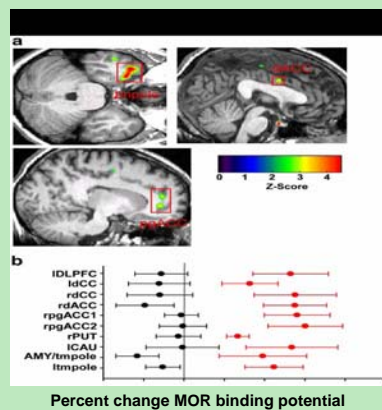
Other Clinical Issues

- Cancer Treatment Induced Early Menopause
- Chemotherapy-Induced Diarrhea or Constipation
- Post-Operative Pain
- Neuropathy
- Skin Reaction
- Liver Toxicity
- End of Life Care



Pain Management

- Naloxone blocks acupuncture-induced analgesia indicating CNS endorphin involvement
- Acupuncture increases the availability of μ -opioid receptors
- Effect unachievable via sham acupuncture (placebo).



From "The Neuroanatomic Basis of the Acupuncture Principal Meridians", Dorsher PT et al, Mayo Foundation for Medical Education and Research 2009 and "Traditional Chinese acupuncture and placebo (sham) acupuncture are differentiated by their effects on μ -opioid receptors (MORs)", Harris RE et al. Elsevier Inc. 2009



Risk of Harm Associated with Non-Conventional Approaches to Cancer Management

- Symptom control of nausea and vomiting should be initiated after underlying causes have been identified
- Claims to “cure” cancer with natural and non-toxic treatment
- Herb-drug interactions
- Side effects associated with unsafe and unregulated non-conventional interventions



Requirements for Acupuncturists Working with Oncology patients

- Acupuncture License
 - National (optional)
 - State (required)
- General Medical Training Background
- Hospital System Experience
- Good Communication Skills
- Experience Treating Oncology Patients



Chinese Herbal Medicine to Support Patients Going Through Chemo and Radiation

Chemo-SupportHuang

Qi Radix Astragali
Ren Shen Radix Ginseng
Ling Zhi Ganoderma
Xi Yang Shen Radix Panacis quinquefolii
Mu Dan Pi Cortex Moutan
Zhi Mu Radix Anemarrhenae
Fu Ling Poria
Chen Pi Pericarpium Citri reticulatae Mai
Men Dong Radix
Ophiopogonis
Dang Gui Radix Angelicae sinensis
Ban Xia Rhizoma Pinelliae Preparatum
Lu Gen Rhizoma Phragmitis
Nu Zhen Zi Fructus Ligustri lucidi
Sha Ren Fructus Amomi
Huang Jing Rhizoma Polygonati
Gan Cao Radix Glycyrrhizae uralensis

Radio Support

Huang Qi
Radix Astragali
Dang Gui Radix Angelicae sinensis
Hong Hua Flos Carthami tinctorii
Dan Shen Radix Salviae multiorrhizae
Shou Wu Radix Polygoni chinensis
Gou Qi Zi Fructus Lycii chinensis
Wu Wei Zi Fructus Schisandrae Nu Zhen Zi Fructus Ligustri lucidi
Zhi Mu Radix Anemarrhenae
Mu Dan Pi Cortex Moutan
Gan Cao Radix Glycyrrhizae uralensis
Sheng Di Huang Radix Rehmanniae
Chen Pi Pericarpium Citri reticulatae
Yu Zhu Rhizoma Polygonati odorati



Analysis of Individual Herbs in Chemo Support

Pharmacology of Chemo Support Ingredients

Huang Qi- Radix Astragali Membranacei

- Enhancement of Immune Function

The decoction given to mice increases the phagocytic activity of the reticuloendothelial system.

- Antibacterial Effect

In vitro was effective against *Shigella Shigae*, *Bacillum anthracis*, *Streptococcus hemolyticus*, and *Staphyloccus aureus*.

- Effect on endurance

Decoction of Huang Qi given to mice significantly increase the endurance in swimming tests.



Analysis of Individual Herbs in Chemo Support

Dang Shen- *Radix Codonopsis pilosulae*

- **Promotion of phagocytosis**

Daily administration of decoction enhanced reticuloendothelial phagocytosis

- **Hematologic effect**

Oral and intravenous use of Dang Shen in normal rabbits caused an increase in red blood cell count and hemoglobin.

- **Immunologic effect**

Dang Shen inhibited the febrile reaction to toxins such as turpentine in mice and rats.

- **Anti-ulcerative effect**

Pre-treatment with the decoction of the herb reduced the incidence of ulcers in rats due to stress of pylorus ligation.



Analysis of Individual Herbs in Chemo Support

Ling Zhi- *Fructificatio Ganodermae lucidi*

- **Antimicrobial Action**

The decoction of the root showed strong antibacterial action in vitro against, *Bacillus subtilis*, *Escherichia coli*, *Salmonella typhi*, *Staphylococcus aureus*, *Streptococcus hemolytic*

Fu Ling- *Scierotium Poriae Cocus*

- **Antineoplastic effect**

Produces an inhibition rate of 96.88% against sarcoma in rats.

- **Effect on Immune Function**

Oral administration increased phytohemagglutinin-induced lymphocyte transformation rate and increased serum IgG.



Analysis of Individual Herbs in Chemo Support

Chen Pi- Pericarpium Citri reticulatae

- **Actions on gastro-intestinal smooth muscles**

The herb decoction inhibited the motility of isolated small intestines of mice and rabbits.

Dang Gui- Radix Angelicae sinensis

- **Effect on platelet aggregation**

Inhibited rat platelet aggregation and serotonin release

Ban Xia- Rhizoma Pinelliae ternatae

- **Anti-emetic action**

Prevents early vomiting caused by deslanoside as well as emesis caused by orally-administered copper sulfate.

Current Research on Alternative Therapies

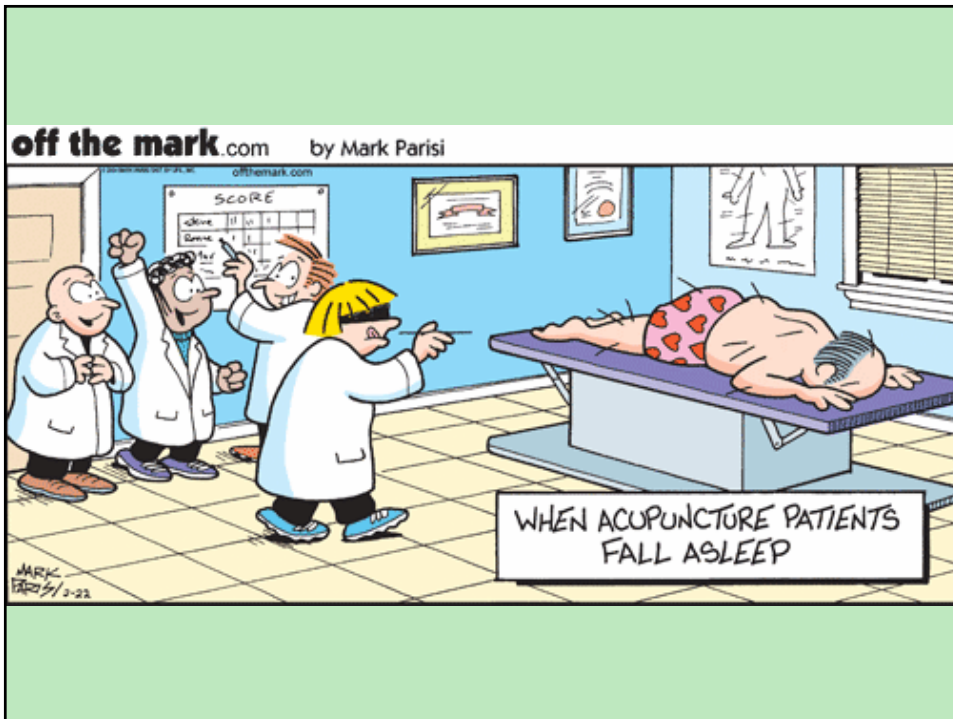
Symptom/Toxicity`	Agent	Number of Patients	Journal, Year
Mucosal/epidermal	Cryotherapy	95	JCO, 1991 (18)
Mucosal/epidermal	Cryotherapy Duration	178	Cancer, 1993 (19)
Mucosal/epidermal	Chamomile Mouthwash	164	Cancer, 1996 (20)
Mucosal/epidermal	Ocular cryotherapy	38	Cancer, 1994 (21)
Mucosal/epidermal	Capsaicin lozenge	18	Journal of Cancer Integrative Medicine, 2004 (22)
Mucosal/epidermal	Aloe vera gel	194	Int J Rad Onc Biol Phys 1996 (23)
Hot Flashes	Vitamin E	105	JCO, 1998 5(2)
Hot Flashes	Soy	149	JCO, 2000 (3)
Hot Flashes	Black Cohosh	21	Cancer Investigation, 2004 (4)
Hot Flashes	Black Cohosh	116	JCO, in Press (5)
Hot Flashes	DHEA	22	Supportive Cancer Therapy, 2006 (7)
Hot Flashes	Acupuncture	103	Menopause, in press (8)
Pain	Capsaicin Cream	99	JCO, 1997 (9)
Lymphedema	Coumarin	130	NEJM, 1999 (24)
Anorexia/cachexia colorectal cancer	Hydrazine sulfate	127	JCO, 1994 (10)
Anorexia/cachexia non-small cell lung cancer	Hydrazine sulfate	237	JCO, 1997 (11)
Anorexia/cachexia	Eicosapentaenoic acid	421	JCO, 2004 (12)
Treatment	Laetrile	178	NEJM, 1982 (13)
Treatment	Vitamin C	123	NEJM, 1979 (14)
Treatment	Green Tea	42	Cancer, 2003 (15)
Treatment	Shark cartilage	83	Cancer, 2005 (17)

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In the Battle of the Disease, Gallant as the
Dragon and Fierce as the Tiger

