

Pearls In Integrative Medicine

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Pearls In Integrative Medicine

OBJECTIVES

- Recognize Integrative Approach to Tx of Medical Conditions
- Recognize Available Data regarding Tx efficacy and risks
- Be able to inform patients with evidence based approach
- Recognize Utility of different Supplements & Modalities in Tx plan

Pearls In Integrative Medicine

AND FINALLY....

BE ABLE TO TELL THE PATIENT WITH CONFIDENCE
THAT,

“DON’T LISTEN TO THAT CRAP
FROM DR. O_ on TV !!!”

Pearls In Integrative Medicine

Part – 1 = Individual Supplements

Part – 2 = Individual Conditions

Pearls In
Integrative Medicine

Part -1

Individual
Supplements

Curcumin

(what is it?)

- Component of a spice “Turmeric” used for cooking
- Natural Polyphenol from rhizome of *Curcuma longa*
- Chemical Name = Diferuloylmethane
- Bright Yellow color
- Poor oral bio-availability and solubility
- Oral use & Topical use in Dermatology

Curcumin

(Bio-Activity)

- Antioxidant, Anti-aging, Neuro-protective
- Induction of cell apoptosis
- Inhibition of cell proliferation, adhesion, motility
- Antimicrobial
- Anti-inflammatory, Anti-tumor
- Regulation of lipid metabolism
- Down regulation of obesity

Curcumin

(Effect on PTSD)

- Diet enriched in Curcumin impaired newly acquired and reactivated fear memories (model of PTSD)
- Diet enriched with 1.5% Curcumin prevented training related “elevated expression” of immediate early genes in Lateral Amygdala (Arc/Arg3.1 and Erg-1)
- The effect was long lasting unlike “extinguished fear memories”
- Source: Neuropsychopharmacology, march, 2015

Curcumin

(Antidepressant effect)

- Brain Derived Neurotrophic Factor (BDNF) increases when antidepressants are used
- Adult male Wistar Kyoto (WKY) rats (accepted putative model of depression) injected acutely and chronically with 50-200 mg/kg of Curcumin
- They had dose dependent increase in Hippocampal BDNF
- They had improved Open Field Loco-motor Activity (OFLA) & Forces Swim Test (FST), accepted parameters of helplessness
- Source: Behavioral Brain Research, February, 2013

Curcumin

(Prevention of DM Type 1)

- Data from 2 accelerated Autoimmune Models of mice
- Curcumin significantly delayed OR prevented onset of DM Type 1
- Curcumin inhibited Pancreatic Leukocyte Infiltration and preserved Beta Cells
- Effect was through reduction of Nuclear Factor kB in T-Cells, modulation of T-cell receptors and proliferation and Interferon Gamma production
- Source: Clinical & Experimental Immunology, 2014

Curcumin

(Dermatological –Topical Uses)

- Curcumin reduces Burn Wound Pain
- Promotes wound healing, Reduces infection
- Minimizes need for Opioid and NSAIDS
- Improves cosmetic appearance of the wound & accelerates wound healing
- No apparent side effects (only yellow discoloration)
- Source-1: U.S. Army Institute of Surgical research, 2013
- Source-2: Journal of Drugs in Dermatology, 2013

Curcumin

(miscellaneous)

- Protects against Beta-Amyloid induced Neurotoxicity
- Improved cognitive function in Alzheimer Animal Model
- Reduced Joint inflammation by inhibiting NF-kB thus preventing IL-1beta & TNF-alpha expression
- Suppressed growth of Malignant Gliomas in Vitro and in Vivo through induction of “Autophagocytosis”
- Source: multiple

Lutein - Zeaxanthin

- Low plasma concentration of carotenoids, anti-oxidant vitamins & smoking are risk for Age Related Macular Degeneration (AMD)
- Lutein & Zeaxanthin are concentrated in Fovea
- They have structural, anti-inflammatory & anti-oxidant properties
- Oxidative damage from absorption of blue and UV light is reduced by these chemicals

Lutein - Zeaxanthin

- Lutein is needed for Neural Development
- Child's Brain had 2 x the Lutein of Adult Brain
- Higher Lutein content in adult brain is associated with better cognitive performance
- Lutein and Zeaxanthin Supplementation improves Cognition & retards AMD
- Dietary Carotenoids correlate directly to Macular Pigment Optical Density (MPOD)

Lutein - Zeaxanthin

Sources

- American Journal of Clinical Nutrition, 1995, 2014
- International Life Science Institute, 2014
- The Journal of Nutrition, 2014
- British Journal of Ophthalmology, 1998
- American Optometric Association, 2004

Saw Palmetto

- It's a Plant – Ripe Fruit is used to make medicine
- Used for Symptoms of BPH & LUTS
- Tried for: - Prostatitis, Hematuria, Chronic Pelvic Pain, Prostate Cancer
- Also tried for: - Cold, Cough, Bronchitis, Bladder Control, Baldness, Migraine, Gynecomastia

Saw Palmetto

(Data)

JAMA – 2011

- Randomized Trial of LUTS
- Multicenter, Placebo controlled, 2 years, Different dosages, 11 Sites
- Parameters Measured: - AUA Score Index, Nocturia, Uro-Flo Measurements, PVR, PSA
- RESULTS: - No change over placebo, No side effects

Saw Palmetto

(Data)

Urology – 2001

- Randomized, Placebo controlled, Double blind for LUTS
- 6 Month Trial Measuring: - Urine symptoms, Sexual function, Uro-Flow rate, Quality of Life Score
- RESULTS: - No change in sexual function, AUA Symptom Index improved (16 to 12) over placebo (15 to 13) ($p=0.038$) --- Uro-Flow Increased (1.0 to 1.4) ($p=0.7$)
- MEANING: - Symptoms improved without improvement in urine flow

Saw Palmetto

(Data)

Journal of Urology – 2004

- 1 Year Prospective Trial for Chronic Prostatitis & Pelvic Pain Syndrome – 64 Men age 24 to 58
- Saw Palmetto vs. Finasteride (all on Alfa Blocker)
- RESULTS: - NIH Chronic Prostatitis Symptom Index Improved (24 to 18) for Finasteride ($p=0.03$)
- For Saw Palmetto = No Change
- SIDE EFFECTS: - Headache (saw palmetto), Decreased Libido (Finasteride)

Saw Palmetto

(Data)

Journal of Urology – 2013

- Randomized Controlled Trial (4 years – 369 men)
- Dose Range = 320 mg – 960 mg vs. Placebo
- To Check: - Effect of Increasing Doses of Saw Palmetto on PSA Value
- RESULTS: - No Effect even at high dosages

Saw Palmetto

(Data)

Journal of Urology – 2000

- Randomized, Placebo controlled (44 men)
- To See: - Effect of Saw Palmetto on Symptomatic BPH
- Measured: - Uro-Flo, PVR, Symptom Score, Prostate Bx
- RESULTS: - Slight Improvement in Symptoms (not statistically significant)
- Bx = Epithelial Contraction in interstitial zone (=gland atrophy – 25% to 40%) – i.e. “Non-Hormonal Effect”

Saw Palmetto

(Data)

NIH Natural Medicine Comprehensive Database
Rating

- Effective -- Likely Effective -- Possibly Effective
- Possibly Ineffective -- Likely Ineffective -- Ineffective
- Insufficient Data

(Is it Partly CLOUDY or Partly SUNNY?)

Saw Palmetto

(Data)

NIH Natural Medicine Comprehensive Database Rating

- Possibly Effective – 320 mg/day x 2 mo. Before TURP
- 1- Reduced Time Spent in Sx
- 2- Reduce Blood Loss
- 3- Reduced Sx Complications
- 4- Reduced Time Spent in Hospital
- 5- BPH symptoms (modest at best)

Saw Palmetto

NIH Natural Medicine Comprehensive Database Rating

- Insufficient Evidence (in following): -
- Prostatitis, Prostate cancer, Chronic Pelvic Pain
- Bladder Control, Gynecomastia
- Baldness, Cold, Cough, Migraine

LIKELY SAFE

Glucosamine & Chondroitin

Arthritis and Rheumatism – 2008

- Glucosamine-Chondroitin Arthritis Intervention Trial (GAIT Trial) – for Knee OA
- 1583 patients, Multicenter (16), Double Blind, Placebo Controlled, 24 weeks long, Average Acetaminophen dose used = 1000 mg/day
- Cost = \$12.5 Million
- 572 Patients followed for 2 years for Joint Space Width Measurements (JSW)

Glucosamine & Chondroitin

5 Treatment Groups

- 1- Glucosamine (1500 mg/day)
- 2- Chondroitin (1200 mg/day)
- 3- Glucosamine + Chondroitin
- 4- Celecoxib (200 mg/day)
- 5- Placebo

Glucosamine & Chondroitin

RESULTS

- Celecoxib better than Placebo (70% vs. 60%)
- Overall NO Difference between other Tx and Placebo
- For Moderate to Severe Pain -- G + C had statistically significant pain relief over Placebo (79% vs. 54%)
- For Mild Pain -- NO significant difference
- Over 2 year Period – No difference in Progression of OA and JSW amongst any Tx

St. John's Wart

- Name – Hypericum perforatum
- Mechanism - Dopamine and Serotonin Re-uptake Inhibition
- 2009 – Systematic Review of 29 International Studies

St. John's Wart

Results

- Better than Placebo
- As effective as many standard Anti-Depressants for mild-Moderate Depression
- Fewer Side Effects than standard medications
- German Studies were more (+) than US Studies
- Used for much longer time in Germany than else where

St. John's Wart

Results

- 2 Studies by NCCIH – NO difference in Mild-Mod Depression compared to Standard Antidepressant Tx
- 2002 – Large Study by NCCIH – NO more Effective than Placebo in Major Depression

(NCCIH = National Center for Complementary and Integrative Health)

St. John's Wart

Precautions

- It can increase Serotonin to life threatening levels when combined with other SSRI
- Can Cause GI distress, Sun Sensitivity, Anxiety
- Decreases Effectiveness of – Other Antidepressants, BCP, Cyclosporine, Digoxin, Indinavir, Irinotecan, Warfarin

Pearls In
Integrative Medicine

Part - 2

Individual
Conditions

Menopause (Symptoms Matter)

Sources (Partial List)

- 2005 NIH Consensus Statement
- NCCAM (National Center for Complimentary & Alternative Medicine) Statement
- 2010 Review of 21 Papers assessed Mind-Body Therapy, Yoga, Tai Chi, Meditation for Hot Flashes, Sleep, Mood, Stress, Muscle & Joint Pain
- 2012 Systematic Review of 2000 women in 16 trials
- 2010 Review assessed Acupuncture for Hot Flashes
- 2000 Columbia University RCT for Black Cohosh
- 2001 Amer. Collage of OB/GYN Consensus Statement

Menopause (Symptoms Matter)

Black Cohosh

- Herb = Actaea racemosa
- Mechanism of action Unknown
- Fikulinic Acid (its main component) has Estrogenic activity in Vitro
- IMPROVED: - Excessive sweating
- NO CHANGE: - Hot Flashes, Sleep quality, Depression, Irritability, Headache

Menopause (Symptoms Matter)

Black Cohosh

- No effect on FSH or LH levels
- No Change in Vaginal Cytology
- Slight increase in Uterine size
- Uterine Cancer Cell Growth in in culture suggesting Estrogenic effect
- SAFETY – LIKELY SAFE WITH SHORT TERM USE

Menopause

(Symptoms Matter)

- Black Clover – No better than Placebo
- Dong Quai – No Benefit, Bleeding Complications
- Ginseng – May help Mood & Sleep, Not Hot Flashes
- Kava – May decrease Anxiety, Not Hot flashes, Associated with LIVER INJURY
- Soy – Mixed results, Long term use associated with thickened endometrial lining
- DHEA – Naturally occurring substance that turns in to Estrogen & Testosterone, has some short term benefit, BUT Long term use associated with GYN Cancers

Menopause

(Symptoms Matter)

- Bio-Identical Hormone Therapy – Not approved, Not tested
- Yoga, Tai Chi & Meditation Based Programs – Reduces frequency and intensity of Hot Flashes, Sleep, Mood, Stress, Muscle & Joint pain
- Acupuncture - Reduced frequency and severity of Hot Flashes (but study too small, poor design, Not duplicated)

Insomnia

Do The Prerequisites First

- Proper Sleep Hygiene / Environment Control
- Relaxation / Biofeedback
- Stimulus Control
- Sleep Restriction
- Photo-Therapy / Chrono-Therapy
- Cognitive Therapy / Cognitive Behavior Therapy

Insomnia

Interventions

- Acupuncture / Tai Chi / Yoga – (+) Benefit
- Acupuncture / L-Tryptophan – (+/-) Mixed results, Contamination of L-Tryptophan caused removal from market
- Valerian Root – Slow Onset, May take up to 3 weeks to work, Helps SLEEP ARCHITECTURE, so may be better in elderly, safe

Insomnia

Interventions

- Massage Therapy – Possible Benefit, No studies
- Aroma Therapy – (Lavender + Chamomile + Ylang Ylang) is the only one studied and may help
- Kava Kava – Rapid onset, Helps reduce Anxiety, Serious Hepatotoxicity, Banned in Many Countries

Insomnia

Interventions – Melatonin

- Hormone found naturally in body
- Made by Pineal Gland, which calcifies after age 20
- Available in Oral tablet, liquid and SL form
- Available in 1 mg – 10 mg dosages
- Source: - NIH Position, Journal of Psychopharmacology

Insomnia

Melatonin - uses

- Jet Lag
- Shift Work Disorder / Insomnia
- Blindness – To establish Night & Day cycle
- During Weaning from Benzodiazepines
- ADHD
- Developmental Disorder (Autism, Cerebral Palsy, Intellectual Disability)

Insomnia

Melatonin - uses

- Alzheimer's Dz, Tinnitus, Depression
- Fibromyalgia, Chronic Fatigue, Migraines
- IBS, Epilepsy, Menopausal Symptoms
- Breast, Brain, Lung, Head & Neck Cancer
- For side effect of Chemo Tx, Withdrawal from Smoking
- Neuropathic Pain
- To Calm Patient before Anesthesia

Insomnia

Melatonin – NIH Rating (Likely Effective)

- Sleep Disorder in Blind
- Delayed Sleep Phase Syndrome (trouble falling asleep)
- Disturbed Sleep-Wake Cycle in Children & Adolescents with Autism, Intellectual Disability, Central Nervous System Disorder
- REM Deficiency Sleep Disorder to improve quality
- Reduce Sleep Interruptions in Elderly with Dementia

Insomnia

Melatonin – NIH Rating (Possibly Effective)

- Help Sleep while Weaning Benzodiazepine
- HTN at Night (may cause paradoxical HTN)
- Primary Insomnia
- Jet Lag
- Anxiety before Sx
- Tumor size reduction (when taken in High Dose with Chemo Tx)
- Sunburn (If applied to skin)
- Thrombocytopenia with cancer and Chemo Tx (may cause Bleeding)

Insomnia

Melatonin – NIH Rating

Possibly Ineffective: -

- Exercise Performance, Infertility, Shift Work Disorder

Likely Ineffective: -

- Depression

Insufficient Evidence: -

- Dementia, ARMD

LIKELY SAFE (SHORT TERM), POSSIBLY SAFE (LONG TERM)

Insomnia

Melatonin – Precautions

- Can Precipitate Transplant Rejection
- Hyperglycemia
- HTN
- Bleeding
- Depression
- Seizures

Diabetes Mellitus

Alpha-Lipoic Acid

- 2011 NIH Study – 467 patients
- 600 mg (with OR without Vitamin E)
- Did not prevent Diabetic Macular Edema
- Did not improve Cholesterol in DM II
- High Dose caused GI distress

Diabetes Mellitus

Chromium

- Cofactor needed for efficiency of Glucose utilization and Insulin function
- 2007 – Systematic Review
- NO benefit in preventing OR controlling DM
- Most Studies were too small or poor quality

Diabetes Mellitus

Cinnamon

- 2012 – Systematic Review of 10 RCTs
- No benefit in DM I or II
- Some samples of Cinnamon in Europe contained Coumarin

Diabetes Mellitus

- Asian OR American Ginseng – No benefit
- Magnesium – “Magnesium Rich Food” reduced risk of developing DM II by 15% (2011 Meta-Analysis of 13 studies)
- Omega 3 Fatty Acids – No benefit (2008 - Systematic review, 2012 - Meta-Analysis)
- Vitamins – Only Calcium+Vit D3 may lower the risk of developing DM II, but increases Bleeding Risk (2007 – Meta-Analysis, 2009 – Clinical Trial, 2010 – Systematic Review)

Diabetes Mellitus

- Curcumin – Prevented DM I in Experimental Mice (British Society of Immunology)
- Vanadium, Polyphenols – Insufficient Evidence
- Bitter Mellon, Fenugreek, Garlic, Milk Thistle, Pear Cactus, Sweet Potato – NO proven benefit

High Cholesterol

Red Yeast Rice

- Made by Culturing Rice with the Yeast called “Monascus pupureus”
- Most commonly used in Chinese Dish “Peking Duck”
- Sold as 600 mg capsules
- Contains variable amounts of “Monacolin K” (chemical identical to Lovastatin)
- NOT regulated by FDA
- Some preparations contain “Citrinin” (causes kidney failure)

High Cholesterol

Red Yeast Rice

- 2011 – NCCIH sponsored study
- LDL Reduction was variable (0–15% drop)
- Did not correlated with Monacolin K level
- Patients with “Myalgia from Statins” –
Tolerated Red Yeast Rice

High Cholesterol

- Garlic – Slightly Lowers Cholesterol, No clinical Benefit, SAFE
- Soy – Slightly Lowers Cholesterol, SAFE
- Green Tea, Noni, Red Clover – NO data
- Aerobic Exercise – Increases HDL Cholesterol
- Resistance Exercise – Decreases LDL Cholesterol

Obesity - Wt. Loss

- Acai – No evidence (No Acceptable Quality Trials)
- Bitter Orange – 2004 – Systematic Review found NO Benefit, Some products are mixed with caffeine, Can increase Photo-Sensitivity
- Ephedra – Systematic Review & Meta-Analysis , Effective in Short Term Wt. Loss, BANNED BY FDA in 2004 due to unacceptable Cardio-Vascular Risk, Seizure, Psychosis & Death
- Hoodia – NO Reliable Evidence

Obesity - Wt. Loss

HCG Diet

- 2013 – Annals of Pharmacology – Side Effects = DVT, Bilateral Palm Embolisms, CVA, Depression, Cardiac Arrest
- 6 Studies – Injectable HCG + Caloric restriction = Wt. Loss in 1 study only
- 1977 – Archives of Internal Medicine – 500 Cal Diet + 125 IU HCG or Placebo = NO Difference

Obesity - Wt. Loss

Green Tea

- 2011 Cochrane Review – 18 RCT - 12 Weeks Long
- Small Statistically Significant BUT Clinically Unimportant Weight Loss
- SAFE when used in Moderate Amount
- Contains Caffeine
- Contains Small Amount of Vitamin K

Obesity - Wt. Loss

Mindfulness Meditation

- 2014 – Systematic review – 19 Studies, 13 RCT, 6 Observational Trials - Significant Wt. Loss achieved (correlation difficult due to study design)
- 2014 – Systematic Review, Meta-Analysis – Reduced Binge Eating, Emotional eating with (+) Wt. Loss
- 2014 – Systematic review, Meta-Analysis – “Food Intake Memory”, “Awareness of Eating” & “Attentive Eating” influences food intake, aids in Wt. Loss and Wt. Maintenance

Pearls In
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Sorry !!

We Ran Out Of Time
For
Questions !!

Pearls In
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Just kidding !!

Pearls In Integrative Medicine

Contact

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