QUENCH BRAIN INFLAMMATION/HEADACHES

NATURAL APPROACHES TO SUPPORT NEUROLOGICAL HEALTH

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ALZHEIMER’S AND OTHER DEMENTIAS
Plaques form when protein pieces called **beta-amyloid** (BAY-tuh AM-uh-loyd) clump together. Beta-amyloid comes from a larger protein found in the fatty membrane surrounding nerve cells.

Beta-amyloid is chemically "sticky" and gradually builds up into **plaques**.

The most damaging form of beta-amyloid may be **groups of a few pieces** rather than the plaques themselves. The small clumps may block cell-to-cell signaling at synapses. They may also activate immune system cells that trigger inflammation and devour disabled cells.

Alz.org
Signals that form memories and thoughts move through an individual nerve cell as a **tiny electrical charge**.

Nerve cells connect to one another at **synapses**. When a charge reaches a synapse, it may trigger release of tiny bursts of chemicals called **neurotransmitters**. The neurotransmitters travel across the synapse, carrying signals to other cells. Scientists have identified dozens of neurotransmitters.

Alzheimer's disease disrupts both the way electrical charges travel within cells and the activity of neurotransmitters.
Your brain is nourished by one of your body's richest networks of blood vessels.

With each heartbeat, arteries carry about 20 to 25 percent of your blood to your brain, where billions of cells use about 20 percent of the oxygen and fuel your blood carries.

When you are thinking hard, your brain may use up to 50 percent of the fuel and oxygen.

The whole vessel network includes veins and capillaries in addition to arteries.
SEVEN LIFESTYLE STEPS TO REDUCE ONE’S RISK OF ALZHEIMER’S

1. Minimize your intake of saturated fats and trans fats. Saturated fat is found primarily in dairy products, meats, and certain oils (coconut and palm oils). Trans fats are found in many snack pastries and fried foods and are listed on labels as “partially hydrogenated oils.”
TRANS FATS AFFECT CELL MEMBRANES

• Trans-fats are “hydrogenated” fats
• Solid margarines, crisco
• Crackers, bread to prolong shelf life
• Read labels
SEVEN LIFESTYLE STEPS TO REDUCE ONE’S RISK OF ALZHEIMER'S

2. Vegetables, legumes (beans, peas, and lentils), fruits, and whole grains should be the primary staples of the diet.
SEVEN LIFESTYLE STEPS TO REDUCE ONE’S RISK OF ALZHEIMER’S

3. One ounce of nuts or seeds (one small handful) daily provides a healthful source of vitamin E.

4. A reliable source of vitamin B12, such as fortified foods or a supplement providing at least the recommended daily allowance (2.4 mcg per day for adults) should be part of your daily diet.
REDUCE RISK OF ALZHEIMER'S

5. When selecting multiple vitamins, choose those without iron and copper, and consume iron supplements only when directed by your physician.
REDUCE RISK OF ALZHEIMER'S

6. While aluminum’s role in Alzheimer’s disease remains a matter of investigation, it is prudent to avoid the use of cookware, antacids, baking powder, or other products that contribute dietary aluminum.
REDUCE RISK OF ALZHEIMER'S

7. Include aerobic exercise in your routine, equivalent to 40 minutes of brisk walking three times per week.

Learn more at
http://www.pcrm.org/health/reports/dietary-guidelines-for-alzheimers-prevention
GRAIN BRAIN (ADKINS/PALEO)

? EVIDENCE BASED

• Gluten and Grains as pro-inflammatory food
• Sugars pro-inflammatory-don’t eat fruit
• All carbs are bad-raise insulin
• Insulin damaging to brain
• Eat lots of meat and cholesterol containing foods, saturated fats plus vegetables.
ADVENTIST STUDY: ANIMAL PRODUCT CONSUMPTION AND DEMENTIA

- 272 California Adventist residents matched for age, sex, and zip code (1 vegan, 1 lacto-ovo-vegetarian, and 2 "heavy" meat eaters in each of 68 quartets).
ADVENTIST STUDY: ANIMAL PRODUCT CONSUMPTION AND DEMENTIA

• The matched subjects who ate meat (including poultry and fish) were more than twice as likely to become demented as their vegetarian counterparts (relative risk 2.18, p = 0.065)

• The discrepancy was further widened (relative risk 2.99, p = 0.048) when past meat consumption was taken into account.
VEGETARIAN DIETS AND INCIDENCE OF DIABETES IN THE ADVENTIST HEALTH STUDY-2.

- 15,200 men and 26,187 women (17.3% Blacks) across the U.S. and Canada who were free of diabetes

- After 2 years diabetes developed in
  - 0.54% of vegans,
  - 1.08% of lacto ovo vegetarians,
  - 1.29% of pesco vegetarians,
  - 2.12% of non-vegetarians.
CONCLUSIONS:

• Vegetarian diets (vegan, lacto ovo, semi-) were associated with a substantial and independent reduction in diabetes incidence.

• In Blacks the protection associated with vegetarian diets was as great as the excess risk associated with Black ethnicity.

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INFLAMMATORY FOODS

- Animal Fats contain Arachidonic acid
- Meat, cheese, dairy, egg yolks biggest source
- Feed the inflammatory pathways
- Sugar
- Casein
- Oils, especially fried-high in free radicals
- Damage cells
GLUTEN
FOOD SELECTIONS/SENSITIVITIES CAN LEAD TO LEAKY GUT
Brush Border
Leaky Gut

- Undigested Food Particles
- Toxins
- Intestinal Lining
- Gap Junction
- Blood Stream
- Yeast/Fungi
- Parasites & Harmful Bacteria
BRAIN CONDITIONS RELATED TO INFLAMMATION AND AUTOIMMUNE CAUSES

• Multiple Sclerosis
• Parkinson’s Disease
• Lupus and other collagen vascular disease vasculitis
HOW TO SHIFT YOUR GUT BACTERIA?

• Eat more foods as grown

• Pre-biotics found in plant foods that encourage the growth of desired bacteria
  • FOS fructo-oligosaccharides (bananas, onions, chicory root, garlic, asparagus, barley, wheat, jicama, and leeks)
  • Polyphenols—green tea, fruits, vinegars (wine, apple cider)

• Probiotics—source of healthy bacteria
  • Fermented foods like yogurt, kefir, fermented vegetables (sauerkraut)
  • Concentrated sources (lactobacillus and bifidobacter)
NATURAL MEDICINES FOR DEMENTIA
ALWAYS CHECK WITH YOUR DOC RE INTERACTIONS

• Acetyl L Carnitine-500 mg twice/day-slow the rate of progression, improve memory, and improve cognitive function and behavioral performance in some patients with Alzheimer's disease

• Ginkgo biloba-80 mg 2-3/day-modestly improves symptoms of Alzheimer's, vascular, or mixed dementias. Studies lasting from 3 months to a year show that ginkgo leaf extract can stabilize or improve some measures of cognitive function and social functioning in patients with multiple types of dementia.
NATURAL MEDICINES FOR DEMENTIA

• Huperzine A-50-200 mcg twice/day improves memory, cognitive function, and behavioral function in patients with Alzheimer's, multi-infarct, and senile dementia. Acts as a cholinesterase inhibitor like donepezil (Aricept), rivastigmine (Exelon) or galantamine (Razadyne). (Don’t combine)

• Idebenone- 90-120 mg 3x/day slows cognitive function decline in patients with Alzheimer's disease. Most effective in patients with moderately severe Alzheimer's disease
NATURAL MEDICINES FOR DEMENTIA

• Saffron- Some research shows that patients 55 years and older with dementia and probable Alzheimer’s disease who receive a specific saffron extract (IMPIRAN, Iran) 30 mg/day orally have comparable cognitive and clinical outcomes to patients receiving conventional therapy with donepezil (Aricept) 10 mg/day orally after 22 weeks of treatment
NATURAL MEDICINES FOR DEMENTIA

• Phosphatidylserine-100 mg 3x/day can increase cognitive function, global improvement rating scales, and improve behavioral rating scales over 6-12 weeks of treatment. Most effective in patients with less severe symptoms.

• Vinpocetine-5-10 mg 3x/day for cognitive impairment due to vascular disease, Alzheimer's disease, and other kinds of dementias. May have a modest effect on cognitive impairment from various causes.
VITAMIN D3

• Optimal level in the 50-75 range (25-OH-vitamin D blood level)

• Recent study: During 9317.5 person-years, 171 developed dementia, 102 Alzheimer’s

• If deficient in vitamin D -- 51% increased risk for all-cause dementia (1.5 risk)

• Severely deficient -- 122% increased risk (HR = 2.22)

• Adjusted for other factors (education, sex, body mass index, smoking, alcohol consumption, and depressive symptoms). Excluded those w/dementia dx in a yr

MECHANISM FOR VITAMIN D?

• Likely both nerve degeneration and blood vessel health

• Vitamin D receptors are expressed in areas of the brain involved in memory (eg, hippocampus, dentate gyrus);

• Vitamin D regulates neurotrophin expression (eg, nerve growth factor);

• Vitamin D reduces amyloid-induced cell death in cortical neurons.

• Disturbed sleep, a hallmark of Alzheimer disease, may also be related to low levels of vitamin
NATURAL MEDICINES FOR DEMENTIA

• Vitamin E-(d-alpha tocopherol) 2000 IU per day is similar to selegiline (Eldepryl), and superior to placebo
  • Slow cognitive function decline in moderately severe Alzheimer's disease
  • Slow functional decline in mild-to-moderate Alzheimer's,
  • Reduce annual rate of decline in activities of daily living by 19% compared to placebo.
• 1000 IU plus Aricept 5 mg slowed cognitive decline
• Does not slow progression from mild cognitive impairment to Alzheimer’s
VITAMIN E SUPPLEMENTS

• Best to use mixed tocopherols with d-alpha tocopherol
• Avoid dl-alpha tocopherol
BLOOD VESSEL INFLAMMATION INVOLVED IN HARDENING OF THE ARTERIES AND RUPTURE OF PLAQUE

• Small vessel disease
• Stroke
• Multi-infarct dementia
Deadly Plaque

Plaque Growth Causes Progressive Closure

Birth  20 yrs.  45 yrs.  70 yrs.
UNSTABLE PLAQUE RUPTURE
HARDENING OF THE ARTERIES
ATHEROSCLEROSIS

- Heart attacks
- Strokes
- Hearing Loss
- Vision Loss
- Memory Loss/Dementia
- Gangrene
- Impotence
- Claudication
- Degenerative Disc Disease
- Angina
AMERICAN DIABETES ASSOCIATION DIET VS LOW FAT PLANT BASED

- Study comparing ADA standard diet to low fat plant based foods
- Both improved
- Low fat plant based group had significantly better sustained improvement in hgba1c
- Now included in ADA approved approaches

*Am J Clin Nutr.* 2009;89(suppl):1588S-96S
RESEARCH BY DEAN ORNISH, MD
INTENSIVE LIFESTYLE CHANGES

• Release of tobacco addiction
• Low fat (10-15%) whole food plant based
• Regular moderate exercise
• Regular relaxation
• Support
PREVENTIVE MEDICINE RESEARCH INSTITUTE FINDINGS

• 85% of angina resolved in 4 wks.
• Cholesterol, blood sugar, blood pressure, exercise tolerance and weight improved significantly.
• Heart blockages reversed per cath and PET scan at 1 year.
• Multi center study Almost 80% eligible for bypass surgery or angioplasty were able to avoid it safely by making comprehensive lifestyle changes without increasing heart related illness and death
Figure: Quantitative coronary angiograms and cardiac PET scans were used to assess effects of life-style changes on coronary heart diseases. 1) at baseline; and, 2) 12 months later. In one person of the experimental group, the Angiograms showed reduction of an arterial stenosis from 46% (left) to 32% (right). PET imaging revealed improved perfusion. (Black and blue = least perfusion; green and yellow = intermediate; red and white = A greatest).
Pet scan flow after 3 wks plant based diet

Heart cath after 32 mo plant based diet

HOW ARE SYMPTOMS AND DISEASE REVERSED?

WITHIN HOURS

• Blood viscosity (thickness) and blood flow through capillaries improve
WITHIN WEEKS, INFLAMMATION REDUCES AND THE FIBROUS CAP GETS THICKER.

Less angina, less spasm, fewer clots, more stable
WITH LOWER FAT IN BLOOD STREAM, LIPIDS AND WBCS BEGIN TO LEAVE...

Less inflammation and a smaller, more stable plaque
EXERCISE INCREASES
COLLATERAL FLOW
BLOOD FLOW IMPROVEMENTS ARE DRAMATIC DUE TO:

• Collateral vessels
• Thinner blood
• Less clotting
• Decreased blockage size
• Decreased inflammation and spasm
• Smoother plaque surface
WABASH VALLEY LEAF
(LIFESTYLE EDUCATION AND FOOD)

• Community lifestyle improvement program
• 8 sessions; 6:15 – 8:30 p.m. Thursdays, Sept 25– Nov 13
• Commencement on Nov 20
• Pre and post health screens for BP, Cholesterol, fasting blood sugar, % body fat, weight, BMI, with recommendations
SESSION TOPICS

#1 Sept 25 · Turning Over A New LEAF
#2 Oct 2 · Healthy Heart and Blood Pressure
#3 Oct 9 · Healthy Blood Sugar/Diabetes
#4 Oct 16 · Protein Myth
#5 Oct 23 · Bone Health
#6 Oct 30 · Preventing Cancer & Recurrence
#7 Nov 6 · Breaking the Food Addiction
#8 Nov 13 · Digestive Health and Fiber
#9 Nov 20 · Commencement Celebration
ADULT LEAF PROGRAM

• Live presentations
• DVD education - mostly from PCRM
• Food Demonstrations and Samples
• Small Group Interaction
• Stress management training
LEAF YOUTH PROGRAM COMPONENTS

• Active Movement-
  • Terre Haute Children’s Museum

• Food and Nutrition
  • Learning about
  • Preparing
  • Tasting
YOUTH PROGRAM COMPONENTS

• Goal Setting and Stress Management
  Liz O’Laughlin, PhD  ISU

• Stretching and Relaxation Exercises
  • Family Y
WABASH VALLEY LEAF (LIFESTYLE EDUCATION AND FOOD)

• Small group conversation
• Demonstrations and FOOD samples
• 21 Day Kickstart Book and resource notebook
• Copies of class powerpoints e-mailed
• Continued group support via monthly alumni mtg.
• $65/person
• Sliding scale scholarships
WABASH VALLEY LEAF

- Healthy Food Choices
- Moderate Regular Exercise
- Stress Management
- Group Support
- Ongoing free alumni program
HEADACHES
STRESS BUCKET THEORY
TENSION HEADACHES

Tight Shoulder/Neck muscles from stress or posture
Inappropriate pillow
Clenching jaw or grinding teeth
TMJ-Temporal-mandibular joint pain
POSTURE AND ERGONOMICS

- Your Height
- Screen Height
- 20°-30° to Screen
- 10°-20° Tilt
- Keyboard Height
- Seat Height
- Screen Height
- Mid-Line
- Center of Gravity

Good Posture

Poor Posture
TENSION HEADACHES

• Stress Management Skills

• Cervical pillow
TENSION HEADACHES - MANUAL THERAPIES

- Massage - self or from therapist
- Osteopathic or Chiropractic Adjustments
- Physical Therapy to stretch/strengthen muscles
NATURAL MEDICATIONS

• Willow Bark-contains salicin, metabolized to salicylic acid (aspirin).
  • Inhibits cyclooxygenase and reduces prostaglandins.

• Essential oils
  • Peppermint-forehead and temples
  • Lavender

• Caffeine-withdrawal can cause headaches, can potentiate pain meds
  • Sources include guarana, Mate, weight loss products, energy drinks, tea, coffee
ACUPRESSURE AND ACUPUNCTURE
ACUPRESSURE
MIGRAINE HEADACHES

Symptom of activation
- Head pain experienced during migraine.
PREVENTION IS FAR BETTER THAN CURE-IDENTIFY YOUR TRIGGERS

• Stress/strong emotions

• Sleep pattern changes

• Foods-Chocolate, ripe bananas, wine-especially red, aged or fermented cheeses, red or balsamic vinegar, soy, nuts, citrus, processed meats with nitrates (hot dogs, cold cuts), sulfites on lettuce or dried fruits, MSG (Chinese food and others), aspartame (nutrasweet), caffeine

• Hormone changes
ELIMINATION DIET HANDOUT

• www.themaplecenter.org

• Community Resources section
NATURAL MEDICATIONS FOR MIGRAINE

• Magnesium-low magnesium can induce cerebral arterial vasoconstriction, increase platelet stickiness, promote serotonin release and increase its effect on blood vessels
  • Jigsaw sustained release magnesium capsules-2 twice/day
  • Magnesium lotion, spray or foot soak
  • Epsom Salt baths 1 cup to bath water

• Riboflavin-400 mg/day
NATURAL MEDICATIONS FOR MIGRAINE PREVENTION

• Feverfew - 50-100 mg of feverfew extract daily.
  • Standardized to 0.2% to 0.35% parthenolide content

• CoQ10 - 100 mg twice/day

• Butterbur (Petadolex brand) 1 twice/day

• I like the CoQ10 and Butterbur in combination
TEMPERATURE BIOFEEDBACK

• Calm quiet location
• Close your eyes
• Diaphragmatic Breathing
• Imagine hand in a warm setting- sun shining on it, resting in a bowl of warm water, etc
• Say to yourself, my hand is getting warmer
• Feel the pulse in your fingertips
QUESTIONS?