ALZHEIMER’S DISEASE

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Walsh Research Institute

- Nonprofit organization
- Expertise in biochemistry & nutrient therapy
- Brain Research
- Clinical Development
- International Physician Training
Discovering in the late 1800's by researchers in Europe and the USA,

First clear description published by Dr. Alois Alzheimer in 1906.
What is Alzheimer’s Disease?

- A brain disease that causes problems with memory, thinking, and behavior.

- Slow progressive death of brain cells.

- Median time between diagnosis and death is about seven years.

- Presently considered incurable.
Features of Alzheimer’s Disease

- Severe oxidative stress
- Amyloid plaque and neurofibrillar tangles
- Metal-metabolism disorder
- Elevated toxic metals
- Low levels of metallothionein in ALZ brains.
Two Types of AD

**Familial AD** *(5% of Cases)*
- Genetic disorder involving abnormal APP and presenilin proteins,
- Typical onset, ages 40-55.

**Late-Onset AD** *(95% of Cases)*
- Associated with abnormal ApoE proteins,
- Typical onset after age 70.
Early Warning Signs

- Loss of interest in events & activities
- Reduced mental “sharpness”
- Often called mild cognitive impairment.
Stage 1: Mild AD

- Striking loss of recent memories, with good recall of older memories,

- Shrinking vocabulary,

- Loss of communication skills,

- Patient may still enjoy life & accomplish basic tasks.
Stage 2: Moderate AD

- Neuron loss spreads throughout the brain,
- Continued loss of memories…. May not remember grandchildren or other relatives,
- Reading/writing skills gradually disappear,
- Wandering, falling, physical aggression are common problems,
- Long-term care facility eventually required.
Stage 3: Advanced AD

- Complete dependence on caregivers,
- Loss of speech & response to visitors,
- In final stages, bedridden, incontinent, and unable to feed themselves,
- Death usually from infections, respiratory problems, and not directly from AD.
AD Risk Factors

- Age
- Head injury,
- Education level,
- Mental and physical activity,
- Vascular factors,
- Alcohol abuse,
- Toxic metals,
- Poor nutrition.
Alzheimer Theories

- Loss of Acetylcholine Activity
- Amyloid Plaque Hypothesis
- Tau Hypothesis
- Inflammation Theory
- Oxidative Stress Explanations
- Toxic Metal Causation
- Epigenetics
AD Plaques and Tangles

Normal Neuron

Alzheimer’s Neuron

Tangles
Plaque
FDA Approved Medications

- Aricept, Exelon, Razadyne increase Ach levels and improve symptoms for 6-12 months, but do not stop relentless destruction of brain cells.

- Namenda (Menantine) regulates glutamate activity in brain – Benefits similar to Ach medications.
The Case for Metallothionein

- MT proteins protect the brain from metal free radicals,

- Metal free radicals (iron, copper, zinc) enhance formation of beta amyloid plaque in the brain,

- Autopsy studies show MT levels less than 1/3 of normal concentrations in AD brains, compared to MT levels in other elderly persons.
Metallothionein-Promotion Therapy for Alzheimer’s Disease

- Formulation of 22 nutrients that promote synthesis and functioning of MT.

- Zinc loading followed by MT-Promotion.

Note: MT-Promotion is aimed at overcoming brain oxidative stress & inflammation, and repair of the blood/brain barrier.
Early Clinical Results

MT Promotion (70 Patients)

- Most patients reported partial improvement of memory followed by stabilization of condition.
- Several patients have lost the diagnosis of AD after several years.
- Caretaker needed for effective compliance.
- Double-blind, controlled studies needed to measure efficacy.
Hope for the Future

- Intensive research throughout the world is aimed at causes and mechanisms of Alzheimer's.

- When the cause of Alzheimer's is identified, effective methods for prevention and treatment will soon follow.
THANK YOU!

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