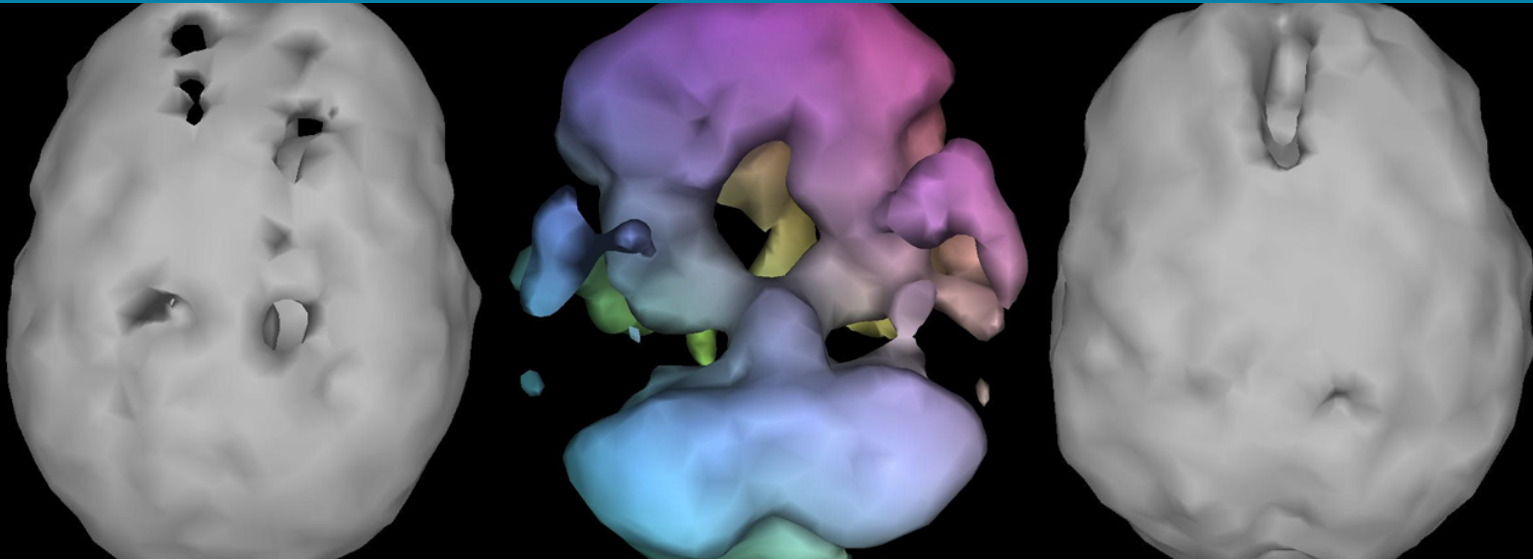


DECREASING THE RISK FOR BRAIN AGING, ALZHEIMER'S DISEASE, AND OTHER FORMS OF DEMENTIA

Lesson 11 Guided Notes



COMMON TYPES OF DEMENTING DISEASES

- Alzheimer's Disease
- Chronic Traumatic Encephalopathy (CTE)
- Frontotemporal Dementia (FTD)
- Vascular Dementia
- Lewy Body Dementia
- Alcohol-Related Dementia
- Chronic Fatigue Syndrome
- Mild Cognitive Impairment
- Brain Injury

It's estimated that Alzheimer's disease (AD) will triple in the next 25 years, and there is no cure. It is the most common form of dementia. Risks associated with AD include:

- A family member with AD.
- Personal history of head injury, heart disease, diabetes, stroke, cancer, ADD, and depression.
- Exercising less than 2 times a week.
- No regular engagement in new learning.

Definition of dementia: Damage to nerve cells that result in a progressive difficulty with remembering, thinking, or doing one's usual activities.



Alzheimer's Disease

- Hypoperfusion (low blood flow) in the posterior cingulate gyrus and bilateral temporal and parietal lobes.
- Pathology is beta-amyloid plaque deposition and neurofibrillary tangles as well as tau protein abnormalities.

Chronic Traumatic Encephalopathy (CTE)

- Common in repeated head injuries (such as in NFL players, boxers, and other contact sports).
- Tau proteins form the building blocks of neurons. Repeated trauma to the brain causes tau proteins to break up and leak from cell membranes; the immune system attacks the leaked proteins causing inflammation around leakages. The resulting phosphorylated tau proteins accelerate the aging of the brain.

The most common type of dementia pattern was seen in the NFL studies at Amen Clinics is FTD.

Frontotemporal Dementia (FTD)

- Deterioration of the frontal lobes and anterior temporal lobes.
- The most common type of dementia pattern was seen in the NFL studies at Amen Clinics.

Vascular Dementia

- Caused by blood vessel disease such as with major strokes or deep, multiple tiny strokes.
- Frontal lobe damage is commonly seen in vascular dementia.

Lewy Body Dementia

- Synuclein plaques form in the basal ganglia and posterior part of the brain.
- Often presents with visual hallucinations due to damage in the occipital lobe.
- Associated with Parkinson's disease.

Alcohol-Related Dementia

- As the name implies, it's seen in patients with a history of alcohol abuse.



Chronic Fatigue Syndrome

- Patients present with dementia-like symptoms that come from a viral process that causes progressive deterioration of cognitive function.

Mild Cognitive Impairment

- Images show early hippocampal damage and frontal or parietal lobe problems, depending on whether it's an early stage of FTD or AD.

Brain Injury

- A common cause of dementia-like processes. TBI can even happen to older people because they are at risk of falling.

Steps to Decrease the Risk of Developing Alzheimer's Disease

Know your risks:

- Genetics: APO E4 – Carrying 1 gene = a 2.5 times risk; 2 genes = 5 to 10 times risk; APO.
- E4 gene is also magnified with traumatic brain injury.
- Traumatic Brain Injury (TBI): Decrease the risk by avoiding contact sports, using seatbelts and common sense to protect your brain.
- Alcohol use: No more than 2 glasses per week.
- Diabetes, obesity, and metabolic syndrome.
- Cerebrovascular disease including high blood pressure and lipid problems.
- Exercising less than twice per week.
- Smoking.
- Parkinson's disease: Symptoms of dementia often appear within 3 years of onset.
- Untreated depression: Doubles the risk for women and quadruples the risk for men.
- Some consider untreated depression in middle age to be a prodrome to AD.
- Untreated ADD is associated with multiple risks, including TBI, alcohol abuse, obesity, less formal education, smoking, and depression.
- Low estrogen or testosterone levels.
- Sleep apnea.
- Cancer treatment.
- High homocysteine levels (associated with inflammation).
- Getting hair and nails done too often due to exposure to toxins/fumes in salons.
- Cosmetologists are at a higher risk for Alzheimer's disease due to chronic exposure.



There is no time in life when a bad memory is normal! Bad habits are a mediator of brain health.

EARLY TREATMENT STRATEGIES

- Work-ups to identify other causes of memory loss such as hypothyroidism, normal pressure hydrocephalus, and Lyme disease, followed by treatment of these issues.
- Diet, exercise, and brain-healthy supplements, such as BrainMD's Brain and Memory Power Boost.
- Medications for Alzheimer's disease include Aricept, Reminyl, Exelon, and Namenda.

PREVENTION STRATEGIES

- Know your risk factors and make changes with healthy behaviors and choices.
- Identify APO E4 status early so children with it can be redirected to activities safer than contact sports.
- Physical exercise.
- Brain exercise and learning new things like a new language and/or musical instrument, new dance steps, etc.
- Curcumin plus vitamin D can reduce beta-amyloid and a low dose of ibuprofen (100-200 mg/day).
- Eat a healthy and restricted diet high in antioxidants and maintain control over blood sugar.
- Early detection, such as with a smell identification test, because treatments are more effective in the early course of the disease.