Delirium - "Acute Brain Failure"

- Symptoms:
  - Disturbance in consciousness
  - Reduced ability to focus, sustain, or shift attention
  - **Acute, fluctuating over the course of a day**
  - Lethargy, Aggression, hallucinations
    - Common among dementia, depression, & psychosis
    - These symptoms help determine types of dementia: Hypoactive, hyperactive, or mixed
  - Problems with memory, orientation, perception, sleep, or speech
  - EEG slowing
- NO Primary Motor or Sensory Disturbances
- Brain Areas: Prefrontal Cortex, Anterior Thalamus, Nondominant parietal & fusiform cortex
  - May alter the ability of amina acids from plasma to brain
- **Usually associated with stress state**
  - **Infection, hypoxia, trauma, surgeries**
    - **40%-52% with post-operative hip fracture**
  - Cholinergic deficiency or dopamine excess
- **Highest rates in hospitalized older adults (32-86%)**
- **Associated with:**
  - **Increased mortality**
  - **Poor functional status**
  - **Limited rehabilitation**
  - **Increased hospital acquired complications**
  - **Prolonged length of hospital stay**
  - **Increased risk of institutionalization**
  - **Higher health care expenditures**
- **Risk Factors: The Vulnerability-Trigger Interaction**
  - **Finding a single factor is RARE, usually look for clusters**
  - Vulnerability = pre-existing condition
    - Ie: dementia, anticholinergic medications, hearing loss, vision loss dehydration, HTN, CHF, Diabetes
  - Trigger = Acute Stress
    - ie: surgery, UTI, Malnutrition, new medications, post-operative pain, new infections
  - Delirium may be caused by a cluster of triggers, vulnerabilities, or any combination of the two
  - Look for additional factors such as: sleep impairment, pain, constipation, or use of restraints on the patient
- Diagnosis:
  - Hallucinations, delusion, aggitation
  - Dementia does NOT rule out delirium
    - **Delirium occurs in 86% of hospitalized dementia patients**
  - Diagnosed based on acute change in mental status with attention deficit accompanied by disorganized thinking or a change in alertness.
  - **Comorbid with:**
    - **Fluid or electrolyte abnormalities**
    - **Infection**
    - **Drug toxicity**
    - **Metabolic disorders**

        - **Sensory and environmental problems**
        - **Low perfusion**
- Assessment:
    - Face-to-face interview
    - Evaluate for hypoxia, hypotension, sepsis
    - Comprehensive Hx
    - NO routine recommendation for brain imaging
- Management:
    - DIFFICULT!
    - Prevention is much more effective
    - Treat the patient's underlying causes such as: Dehydration, infection, drugs

Dementias - "Chronic Brain Failure"

- Occurs increasingly in older individuals
  - 6% of pts 65-69
  - 7% of pts 70-79
  - 17% of pts 80+
- **Patient with Dementia have 5x higher risk of developing delirium**
- Diagnosis:
  - Aquired syndrome of decline in memory and one other cognitive domain
    - Language, visuospatial, executive
  - Impairment sufficient enough to interfere with social or occupational function
  - **66-80% of dementia pts go unrecognized**
  - Procedures:
    - MMSE Questionaire with CDT and AFT tests
    - Neurological Examination
    - Comprehensive History
      - Sedatives
      - Anticholinergic drugs
    - **Screen for hypothyroidism, Vit B deficiency, & Syphillis**
    - **Brain Imaging to find cerebrovascular event**
- Screening for Dementia:
  - To increase recognition of dementia
  - Early pharmacological treatment
  - Good sensitivity but poor specificity of tests
  - **Potential psychological morbidity of false positives causes controversy about effectiveness of screenings and early treatments**
- Relocation to Care Facilities:
  - Transfering patients should be done in the daytime
  - Familiar people and objects should accompany the pt
  - Person may be frightened or develop depression, give them 6-8 weeks to settle in
- **Alzheimers (AD)**
  - **MOST COMMON (70-80%) of dementia cases**
  - Neuronal Death
    - Inflammatory cascade leading to neuronal Oxidations
      - This overwhelms the brains reserve capacity for loss
    - **Intracellular Neurofibrillary Tangles (INFs)**
      - **Abnormally aggredgated, hyper-phosphorylated tau proteins**
    - Amyloid Plaques in selected brain regions
      - Extracellular accumulations of amino acids
  - **Risk Factors**
    - **Genetic susceptibility (family history)**
    - **Exposure to environmental insults**
    - **AGE* the best studied and strongest risk factor**
    - Apolipoprotein E-4 gene
    - Down's Syndrome
    - Head Trauma
  - **Protection/Prevention:**
    - **Educational attainment**
    - **Cognitive & leisure activities**
      - Playing board games, musical instruments, reading

        - **Exercise**
            - Aerobic, strength training
        - **Statins**
        - **Cholesterol lowering diet**
        - **Protection from head trauma**
        - **Evidence does NOT support the use of antioxidants, such as Vitamin E or C, or anti-inflammatory agents (NSAIDs) for AD prevention**
- **Vascular Dementia**
    - **30% of dementia Cases**
    - **Risk Factors:**
        - **Hypertension**
        - **Hyperlipidemia**
        - **Diabetes Mellitus**
        - **Cerebrovascular events**
        - **Atrial Fibrillation**
        - Hormone Replacement Therapy
    - Symptoms: patients have better verbal performance and worse executive function than pts with AD
    - Sub-Types
        - Cortical
        - Subcortical
        - Single strategic vascular insult
        - Generalized severe cerebral hypofunction
- Mixed = Vascular + Alzheimers
    - 22% of dementia cases
- Mild Cognitive impairment
    - Between normal aging and dementia
    - Increases risk for AD
    - Diagnosis:
        - Subjective complaints such as memory or executive problems
        - Objective deficit in one or more cognitive domains
        - Absence of impairment in ADLs
        - Absense of dementia or delirium
- Dementia of Lewy Body Type
    - Rare
    - Fluctuating cognitive deficits, parkinsonian signs, visual hallucinations
- Parkinsons Disease Dementia
    - Dementia occurs in 25-30% of parkinsons pts
        - Usually late in the disease (at least 12 months)
- Additional RARE dementias:
    - Frontotemporal Dementia
        - Personality changes, loss of executive function
    - Primary Progressive Aphasia
    - Normal Pressure Hydrocephalus
        - Urinary incontinence and apraxic gait
    - Huntington's Disease
    - Creutzfield-Jakob Disease

Depression

- **Often overlooked due to the widely held myths regarding demeanor and personality of elderly individuals**
- **TSH measurements should be tested for ALL suspected depression pts, as it may be hypo/hyperthyroidism**
    - **Also check Vitamin B12 and folate levels**
    - Diagnosis of dysthymia:
        - Depressed mood most of the day, more days than not, for 2+ years
        - Poor apetite or overeating
        - Insomnia or hypersomnia
        - Low energy or fatigue
        - Low self-esteem
        - Never without the symptoms for more than 2 months
        - No major depressive event
- Diagnosis of depressed mood:
    - Emotional or behavioral symptoms in response to an identifiable stressor or event
    - Do not meet criteria for another disorder
    - Impairment of social or occupational functioning
    - Do not represent bereavement
    - Do not persist beyond 6 months after removal of stressor
- **Symptoms in the Older Patient:**
    - ***Pseudo-dementia (mimics dementia)***
    - ***Sadness of mood is usually present but often masked by other symptoms***
    - **Impairment of cognition**
    - **Psychosomatic**
    - ***Weight loss/Undernutrition***
        - **Often a sign of unrecognised depression**
    - **Fatigue**
- **Treatments:**
    - **Psychotherapy combined with antidepressants is the most effective**
        - **Doses should begin small, titrating upward until an effective dose is found**
    - **Many patients and families avoid therapy or drugs due to:**
        - **Social stigma of mental illness**
        - **Concern for harmful effects**
        - **Nonrecognition of the chemical nature of depression**
        - **Assumption that, if the depression was caused by an event or environment, that passing of the event will relieve the depression**
        - **Opinion that the depressed mood is reasonable given the circumstances**
        - **Belief that the individual should be able to resolve it on their own**
        - **Fear of addiction or habituation**
        - **Fear or suicide induction, personality change, and other harmful effects**
    - Families must understand that depression is a chemical imbalance