Review of Geriatric Psychiatry

Ottawa Review Course
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Disclosures

• No conflicts to disclose
Objectives

• Review fundamental concepts in Geriatric Psychiatry at the level of a General Psychiatrist
• Highlight medical topics associated with aging that may not be covered in other parts of the course

Not meant to be a subspecialty lecture with respect to content and detail
Outline of Presentation

• General geriatric considerations
  – Epidemiology
  – Physiologic changes with age
  – Geriatric Syndromes

• Psychiatric diagnoses in the elderly
  – The three D’s minus delirium and dementia
  – How other psychiatric disorders present in the elderly
  – Prevention and treatment
Sources of Information

- Note: the 5th edition of the APA textbook of Geriatric Psychiatry being published Jan 30/2015
- Previous Ottawa Review Course presentations (2014 and 2013)
- Canadian Coalition of Senior’s Mental Health Guidelines 2006 (Four Guideline Sets)
- Additional references provided at the end
General Geriatric Considerations

• Why is it important to know the basics about Geriatric Psychiatry?

• What makes this group unique?

• Geriatric Tsunami is coming and it will be your future!!!
• People >65 make up one of the fastest growing segments of the population
The Silver Tsunami

By 2030 there will be 72.1 million older Americans
Epidemiology

• Average life span has lengthened and is getting longer
• In the US, there were 35M people 65 or older in the year 2000 (12% of the population)
  – Projected to reach 72.1 M by the year 2030
  – Projected to reach 86.7 M by the year 2050
• In 1900:
  – life expectancy in the US was 48.3 years for women
  – life expectancy in the US was 46.3 years for men
• In 2004:
  – Life expectancy at birth was 80.4 years for women
  – Life expectancy at birth was 75.2 years for men
Physiologic Changes: MCQ

• Your 72-year-old male patient asks you what he could do to improve his respiratory function because he has noticed a marked decrease in his respiratory capacity. Although you tell him that respiratory decline cannot be reversed, you recommend which of the following, which has been shown to slow the rate of decline?
  • A. Moderate alcohol intake.
  • B. Improved sleep hygiene.
  • C. Exercise training.
  • D. Dietary changes.
  • E. Beta-adrenergic blocking agents.
Physiologic Changes: MCQ

• Which of the following changes in endocrine function occurs in elderly patients?
• A. Basal antidiuretic hormone (ADH) levels are normal to increased.
• B. Basal corticotropin levels are decreased.
• C. Aldosterone levels are increased.
• D. Growth hormone levels continue to rise and peak at age 70.
• E. Thyroid function declines significantly leading to an increased risk of hypothyroidism.
Physiologic Changes

- Hallmarks of physiologic change with age:
  - 1. Impaired homeostasis or ability to maintain steady state
  - 2. Increased vulnerability/decreased reserve capacity
Frailty
Frailty

- Resulting from the combination of increased vulnerability and decreased ability to withstand stress (or maintain homeostasis)
- A physiologic spiral downwards with increasing fatigue and weakness, nutritional compromise
- Ultimately loss of ability to function independently with higher risk of medical illness and mortality
- Decline in functional reserve in multiple systems
Frailty

- Predispose elderly to harm with relatively minor insults
Impaired Homeostasis

• CV:
  – increased SNS activity
    • alpha and beta adrenergic receptors less sensitive to stimulation
      – lower max HR and force of contraction
      – increased risk of orthostasis
      – less responsive to SNS signals in general
      – Less robust baroreceptor reflex (response to vascular depletion)
  • Resp:
    – low O2 and high CO2 fail to provide strong stimulus to breathe
      • decline slowed by exercise
    – decreased ability to generate strong cough
Impaired Homeostasis

• Renal:
  – increased risk of hyponatremia
    • due to increased basal levels of ADH
  – increase risk of dehydration
    • decreased ADH release in response to hypovolemia
    • impaired thirst mechanism
    • decreased production of response to renin and aldosterone (help with Na retention)

• Heme/ Immune:
  – less vigorous immune response to invasion
  – less response of bone marrow to hypoxic conditions
  – less likely to develop fever or leukocytosis in response to infection
Increased Vulnerability

• GI:
  – receding gums, increased decay and tooth loss
  – decreased swallowing coordination
  – slower transit through bowels, decreased vitamin absorption

• Renal:
  – decreased renal clearance
    • by age 60, 30-50% of functioning glomeruli are gone!!
Increased Vulnerability

• CV:
  – arterial stiffness, increased SBP
  – susceptibility to LVH, IHD, CVD and renal dysfunction
  – decreased estrogen leads to higher LDL levels
• Resp:
  – stiffer chest wall
  – loss of alveolar surface area
  – decreased diffusing capacity of lung
• Immune:
  • primary defenses affected
    – thinner skin
    – more easily colonized mucous membranes
    – decreased amount and acidity of urea in the urine
Increased Vulnerability

- **MSK:**
  - net loss of bone mass due to:
    - decreased levels of vitamin D and Ca
    - decreases in estrogen and testosterone effect bone mass
    - overall osteoblasts and osteocytes decrease with age while osteoclasts function normally
    - mechanical strain has less impact on bone formation
  - decreases in testosterone levels also affect strength
  - decreased muscle mass overall with age (sarcopenia) can be modified with exercise
Increased Vulnerability

– Vision:
  • decreases in accommodation, ability to adapt to light, colour discrimination, visual acuity
  • increased risk of MD and cataracts

– Hearing:
  • loss of hearing in high and low frequencies
  • loss of speech discrimination
Geriatric Syndromes

• Memory loss and Dementia
• Falls
• Urinary incontinence
• Polypharmacy
Memory loss and Dementia

– Changes in cognition with age are not uniform and do not occur in everyone

– Normal age related changes in cognition include:
  • intact ability to recognize words but decreased ability to name items
  • intact working memory but increased difficulty accessing information from LTM
  • intact executive functions but increased time to learn new information
  • decreased motor speed and response times
  • increased difficulty with visuospatial tasks
  • Increased difficulty with multitasking

– Dementia is prevalent but not normal in this population
  • present in 5% at 65
  • doubles every 5 years thereafter until 80
Falls

MOVING FORWARD
CAN BE ACHIEVED FOR SOME PEOPLE ONLY BY FALLING ON THEIR FACE.
Falls

- 50% LTC residents and 30% community dwelling elders fall/yr
  
  - 2% cause hip fractures
  - 5% cause other fractures
  - 10% cause head injuries
  - significant risk of decline in ADL’s post fall
Falls

Causes:
1. Intrinsic - neurologic or systemic illness, may be non-specific presentation of medical illness
2. Situational - relates to the activity taking place at the time of the fall
3. Extrinsic - demands and hazards in the environment
4. Medications - Side effects!
Falls

Fall Prevention:

1. Intrinsic
   – optimally treat disease
   – PT for balance and gait
   – exercise for conditioning and strength

2. Situational
   – increase staff supervision and use motion detection

3. Extrinsic
   – remove hazards, eliminate restraints
   – install protective flooring, encourage hip protectors

4. Medications
   – prescribe and monitor medication carefully
Urinary Incontinence
Urinary Incontinence

• Urinary incontinence:
  – Presents in 50% LTC residents and 30% community dwelling elders
    • usually multifactorial
    • may not respond to just one intervention
  – Consequences include:
    • pressure ulcers, cellulitis
    • falls, fractures
    • sleep disruption, sexual dysfunction and depression
  – Cause may be transient
    • UTI, diabetes, diuretic
Urinary Incontinence

Cause of incontinence should be established

• Urge incontinence
  – due to detrusor overactivity
  – e.g. UTI
• Stress incontinence
  – e.g. due to weak pelvic muscles
• Overflow incontinence
  – due to bladder outlet obstruction
  – e.g. BPH
• Functional incontinence
  – can’t get to the bathroom in time
  – e.g. arthritis or dementia
Polypharmacy

• Elderly outpatients use on average 3.1-7.9 prescription and non-prescription medications simultaneously

• Increased risk of:
  • Adverse drug reactions
  • Drug interactions
  • Noncompliance
  • Incontinence
  • Falls
  • Cognitive impairment
  • Delirium
Geriatric Psychopharmacology

Pharmacokinetic changes (how the body processes the drug)

– Absorption
  • decreased intestinal and splanchnic blood flow can result in decreased absorption

– Volume of distribution:
  • smaller volume of distribution
    – decreased lean body mass and TBW
    – relevant to drugs that are distributed in water (lithium)
  • decreased albumin in frail elderly
    – affects binding and free levels of drugs (warfarin)
  • increased adipose tissue
    – leads to prolonged t1/2 in lipid soluble drugs (diazepam)
Geriatric Psychopharmacology

Pharmacokinetic changes

– Clearance rate:
  • renally cleared drugs negatively impacted by
    – decreased GFR and CrCl
    – drugs such as NSAIDS and ACEI that can alter renal blood flow
  • hepatic drug clearance impacted by
    – age related decline in hepatic blood flow
    – slow oxidative metabolism in the P450 system
    – elimination t1/2:
  • increases in certain drugs and dosages need to be adjusted accordingly
Geriatric Psychopharmacology

• Pharmacodynamic changes are the effects of drugs on the body
  – increased sensitivity to many medications at any given dose due to:
    • Reduced receptor density (muscarinic, opioid, and dopamine)
    • Decreased ability to upregulate and downregulate post synaptic receptors
Physiologic changes: MCQ

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The 3D’s Minus Dementia and Delirium Mood Disorders

Depressive Disorders

Bipolar Disorders

Grief

Other causes of mood symptoms
Mood Disorders in the Elderly

Depression

- **Prevalence:**
  - “Substantial depression” in 14.7% to 20% of elderly living in the community.
  - 1% major depression & 2% Dysthymia with DSM criteria (excluding GMC..)
  - 12-45% in older adults within hospitals
  - 40% elderly in LTC
  - Most common mental health problem for older adults

- **Late life depression appears less frequent than at other life stages**
  - but the frequency is much higher in the physically and cognitively impaired than in the community
Mood Disorders in the Elderly
Depression

• Symptoms of depression are often thought to be a normal response to life changes:
  – living on a fixed income
  – loss of purpose
  – Retirement
  – increasing dependency needs
  – death of spouse
  – multiple illnesses

• Symptoms of depression are not a normal part of aging
Mood Disorders in the Elderly

Depression

Barrier/ Challenges to diagnosis:

• Communication limitations (hearing ↓)
• Cognitive ↓ (inaccurate reporting)
• DDx dementia (apathy)
• Greater social stigma
• Poor understanding of normal aging
• Emphasis on medical illness
• Absence of depressed mood
• Recently bereaved
Mood Disorders in the Elderly Depression

Consequences/Costs:
• functional decline
• family stress
• ↑ risk of medical illness
• ↓ recovery from illness
• ↑ death via suicide or other causes
• ↑ placement
Mood Disorders in the Elderly

Depression

- Prognosis:
  - Similar to younger populations in the absence of comorbidity
  - 70% recovery with meds and response rates of up to 80% with meds and IPT

- The length of untreated episodes:
  - Similar throughout age groups (9 months)

- Frequency of episodes:
  - Increases with age
  - Can merge into a chronic condition

- First-onset episodes occurring after age 60 (late onset):
  - Make up about 50% of all episodes in older adults
Mood Disorders in the Elderly

Depression

Depression in the elderly VS adult:

• Minimization of C/O sadness (likely biological)
• ↑ somatic symptoms
• ↑ anxiety and agitation
• ↑ focus on cognitive problem
Mood Disorders in the Elderly
Depression

Depression in the elderly VS adult:

- Sleep disturbance not different from younger adults (early A.M., frequent awakenings, "Have not slept at all")
- Delusions (somatic, "paranoid", unforgivable behavior) more frequent
- Weight loss can be considerable
- Bowel impaction due to severe constipation common
Mood Disorders in the Elderly

Depression

- Factors associated with good prognosis:
  - Biological
    - female, extroverted, no substance abuse, recovery from previous episodes, FHx depression, no major PPHx, less severe depression, no other serious illness
  - Psychosocial:
    - current or recent employment, no major life events, religious coping/involvement
    - socioemotional selectivity:
      - elderly may de-emphasize negative events and prioritize emotionally meaningful goals rather than suppressing emotional wellbeing in the pursuit of knowledge
      - accumulated wisdom
        - provides protection when confronted with complex negative experiences
Mood Disorders in the Elderly

Depression

• Factors predicting poor prognosis:
  Biological
  – vascular dementia
  – Functional limitation due to chronic medical illness
    • depressive symptoms tend to be persistent and resistant to drug treatment
  Psychosocial:
  – lower SES and perceived social support is best predictor of depressive symptoms
  – social causes differ from younger populations
    • more likely with:
      – higher total number of life events
      – chronic strain e.g. caring for a loved one with dementia
      – total # daily hassles
Mood disorders in the Elderly

Depression

Suicide

• Less likely than younger adults to endorse SI or make attempts yet have substantially higher rates of completed suicide

• Ratio of self harm/suicide completion 20/1 in young vs 4/1 in elderly

• Suicide rate in older men 65+ is 23/100 000 compared to 12.3/100 000 in the nation as a whole.
Mood Disorders in the Elderly

Depression

Suicide

- Reported numbers likely much less than actual due to stigma and other challenges in reporting
- Lethality of self-harm increases with age
- Methods in men: firearms and hanging
- Methods in women poisoning and hanging
Mood disorders in the Elderly
Mood Disorders in the Elderly Bipolar

- Winokur (1975) first theorised that BPAD may burn itself out over time
  - supported by large epidemiologic surveys in the community (ECA)
  - Data probably underestimates true prevalence
    - excluded institutionalized individuals
    - prevalence reported as 3-10% in LTC and 17% in residential psychiatric programs
Mood Disorders in the Elderly Bipolar

- Shulman and Post reported that only 8% of elderly with BPAD had their first manic episode before the age of 40
  - most experienced their first mood episode at about 50 yrs, usually depression
  - average latency of 15 years before the first manic episode
- Cutler and Post report a tendency of manic or mixed episodes to cluster again late in life and then remit for extended periods
Mood Disorders in the Elderly Bipolar

• Stressful events more likely to precede early onset mania

• Organic insults are more likely to precipitate late onset mania
  – rate of neurologic illness 36% in hospitalised manic patients vs 8% in age matched unipolar depressed patients

• Less of a genetic component
Mood Disorders in the Elderly

Bipolar

Presentation:

– Most often mixed rather than pure manic episodes
– Dysphoric rather than classic euphoric mood
– High rates of comorbid:
  • diabetes
  • cognitive impairment
  • neurologic disease (may play a role in conversion to BPAD?)
– Much higher mortality over 10-15 year follow up than unipolar depressed patients (50 vs 20%)
Mood Disorders in the Elderly Grief

• Among persons 65 and over, 45% of women and 15% of men have experienced the loss of a spouse

• The dual process model of bereavement describes the interplay of:
  – loss-oriented (loneliness, loss of support) stressors
  – reorientation-oriented stressors (taking on new roles, forming new identity)
  – emphasizes that oscillating between these two foci helps to promote healthy adjustment
Mood Disorders in the Elderly Grief

• Normal bereavement:
  – typically resolves within 18 months
  – without need for treatment beyond targeted symptomatic treatment (sleep)
  – some interventions can worsen symptoms and are not recommended
Mood Disorders in the Elderly Grief

- DSM5 notes that clinicians should exercise clinical judgement in determining if MDD is present in the context of a recent death.
- Factors which are considered more indicative of normal grieving include:
  - Predominant feelings of emptiness or loss rather than inability to feel pleasure.
  - Dysphoria occurs in waves associated with thoughts of the loved one, may be balanced by positive emotions at other times.
  - Thought content features preoccupation with the deceased rather than self criticism.
  - Self esteem is generally preserved; any negative self image is regarding perceived failings vis-à-vis the deceased.
  - Thoughts of death or dying focus on the idea of joining the deceased.
Mood Disorders in the Elderly
Depression: Differential diagnosis

• Rule out substances
  – Prescribed or over the counter medication
  – Drugs of abuse

• Rule out general medical conditions
  – Slow movements (neurological)
  – Lytes/extended lytes changes
  – Energy decrease (anemia, decreased B12)
  – Endocrine disorders (TSH, glucose)
  – Pain

• Rule out other conditions
  – Bipolar disorder
  – Grief
Case one presenting symptoms

• 80-year-old man with a five year history of Alzheimer’s dementia
• Currently living in a long-term care home
• Presents with a two day history of “moodiness”, significant irritability, markedly decreased interest in things he previously enjoyed, daytime sedation, nighttime agitation and increased confusion
What you think the diagnosis is?

- 1. Bipolar disorder
- 2. Major Depressive Disorder
- 3. Delirium
- 4. Major Depressive Disorder, Severe With Psychotic Features
- 5. Bereavement
Case two presenting symptoms

• 73-year-old man with an irritable and angry mood and difficulty sleeping at night (sleeping two hours in 24 for the last week)
• Worry and guilty ruminations particularly when trying to go to bed at night
• Starting multiple projects but cannot complete them; trouble staying on task
• Decreased appetite with weight loss
• Thoughts of suicide
• History of recurrent unipolar depressions, about every five years since the age of 50, otherwise high functioning
• On mental status exam: Notable psychomotor agitation to the point that he can’t sit still during the interview; it is difficult to interrupt him in order to ask questions; thought process is circumstantial to disorganized; difficulty attending to and responding to pointed questions
What you think the diagnosis is?

• 1. Bipolar disorder
• 2. Major Depressive Disorder
• 3. Delirium
• 4. Major Depressive Disorder, Severe With Psychotic Features
• 5. Bereavement
Case three presenting symptoms

- 89-year-old woman with an inability to enjoy anything, slowly worsening over the last two months
- Denies depressed mood
- Staying in bed all the time, sleeping at night and during the day
- Decreased food and fluid intake with weight loss (BMI=17.5, BUN=20, Cr=100)
- Sensation of a lump in the throat which prevents swallowing of most solids and liquids; she believes this is due to a stomach cancer, despite normal assessment from GI
- Loss of will to live
What you think the diagnosis is?

• 1. Bipolar disorder
• 2. Major Depressive Disorder
• 3. Delirium
• 4. Major Depressive Disorder, Severe With Psychotic Features
• 5. Bereavement
Case four presenting symptoms

- 79-year-old woman, widowed one year ago and moved to a retirement home four months ago
- Has not gotten involved in any activities at the home nor has she maintained previous social contacts
- She feels low and sad most of the time
- She awakens early in the morning and is unable to return to sleep
- She complains of feeling tired all the time and having various aches and pains
- The interview is difficult as she is so slow to respond to questions
What you think the diagnosis is?

- 1. Bipolar disorder
- 2. Major Depressive Disorder
- 3. Delirium
- 4. Major Depressive Disorder, Severe With Psychotic Features
- 5. Bereavement
Case five presenting symptoms

- 83-year-old woman who has lost her husband one month ago
- She has found herself feeling tired and having difficulty sleeping since the time of his death
- She feels guilty that she was not at his bedside at the moment of his death
- She continues to cry quite frequently when she thinks of her husband
- She has not yet resumed social activities although she does maintain contact with her friends
- She continues to sense the presence of her husband and sometimes think she hears his voice
What you think the diagnosis is?

• 1. Bipolar disorder
• 2. Major Depressive Disorder
• 3. Delirium
• 4. Major Depressive Disorder, Severe With Psychotic Features
• 5. Bereavement
Psychosis: MCQ

- Recent data suggest that patients with late-onset schizophrenia, in comparison with early-onset patients, have a lower prevalence of
  - A. The paranoid subtype.
  - B. Persecutory delusions.
  - C. Organized delusions.
  - D. Auditory hallucinations.
  - E. Negative symptoms
Psychosis

- Prevalence of psychotic symptoms in the elderly:
  - 7-10% 85-95 y.o. in the community without dementia
- Prevalence of schizophrenia in the elderly:
  - 0.5% in the elderly
- Schizophrenia can be classified by age of onset:
  - NOTE: DSM5 does not specify age of onset
  - Early onset before 40
  - Late onset schizophrenia after the age of 40 (23-29%)
  - Very late onset schizophrenia like psychosis after the age of 60 (3-12%)
Psychosis

• Risk Factors late and very late onset:
  
  – sensory deficits (hearing impairment)
  – social isolation
  – female sex
  – abnormal social functioning
  – abnormal premorbid personality
Psychosis

• Course in the majority of elderly with early onset:
  – Unchanged over time
  – 10% meet criteria for sustained remission
  – General trend is for improvement in positive symptoms
    • In chronically institutionalized individuals, higher levels of negative symptoms
  – Cognitive decline in keeping with expectations for normal aging
    • greater than expected in those who are chronically institutionalized
Psychosis

• Presentation of late onset schizophrenia:
  • More women present with late onset
  • More paranoid subtype (75% vs 50%)
  • less negative symptoms and executive dysfunction
  • higher premorbid function including successful marriage and occupational histories
Psychosis

• VLOSLP
  (very late onset schizophrenia like psychosis)
• Different from true schizophrenia; appears to be a distinct entity
  – Lower genetic load
  – Less evidence of childhood maladjustment
  – Relative lack of thought disorder and negative symptoms
  – Greater risk of TD
  – Appears to be a neurodegenerative rather than a neurodevelopmental disorder associated with focal white matter abnormalities
  – Presents more commonly in immigrant populations; psychosocial factors may play a role
Psychosis

• Median prevalence of psychosis in AD is 41%
• Increased prevalence with # years since diagnosis:
  – 20% yr 1
  – 36% yr 2
  – 50% yr 3
• Most common symptoms:
  – persecutory delusions (36%)
    • misidentification of caregivers, delusions of theft
  – visual hallucinations (18.7%)
  – auditory hallucinations (9.2%)
Psychosis

• Uncommon:
  – disorganized speech and behaviour
  – negative symptoms

• Correlate with:
  – more rapid cognitive decline
  – greater impairment in executive function
Psychosis

Delusional Disorder

• Typical patient is a woman, living alone, partially deaf and eccentric without previous psychiatric illness and without obvious cognitive deficit
• Does not typically seek psychiatric help
• Not usually convinced of need for medication so unwilling to take it
Psychosis

Delusional Disorder

• Auditory and visual hallucinations can be present, but are not prominent
• Delusions usually strictly circumscribed but sustained
• Patient frequently wishes to move to get away
• Associated with social isolation and sensory deprivation
Recent data suggest that patients with late-onset schizophrenia, in comparison with early-onset patients, have a lower prevalence of

- A. The paranoid subtype.
- B. Persecutory delusions.
- C. Organized delusions.
- D. Auditory hallucinations.
- E. **Negative symptoms**
Personality Disorders: MCQ

• Which of the following statements concerning personality disorders in seniors is \textit{false}?

• A. The prevalence of personality disorders in older persons is generally twice the rate of personality disorders in younger persons in the general population.

• B. The single most common comorbid Axis I condition in seniors with personality disorders is depression.

• C. The prevalence of personality disorders in selected outpatient or inpatient samples of older persons can be as high as 25%–65%.

• D. The prevalence of personality disorders in the general population is estimated at 10%–15% of all ages.

• E. The prevalence of personality disorders in psychiatric settings is usually three to four times higher than in the community.
Personality Disorders

- Personality consists of:
  - temperament
    - genetically determined
  - character
    - developed through interactions with the environment
    - amenable to change over time
- Appear to be less prevalent in the elderly population overall (some controversy)
- Prevalence:
  - 5-10% of community dwelling elderly population
  - as high as 25-65% in psychiatric settings
Personality disorders

- Cluster B personality disorders (and traits) less evident with time...
- Prevalence declines with age
- Beware of personality disorders diagnosed in association with a depressive episode
- Defer diagnosis of Axis II until depression treated...
Personality disorders

• Controversy:
  – DSM criteria may not apply well in later life leading to under-diagnosis
  – Seems to be decreased incidence and severity of some PD diagnoses with age

• Solution:
  – If there is significant dysfunction related to rigid and maladaptive coping
    • Use the diagnosis PDNOS
    • Diagnose a specific disorder and specify “in partial remission”

• NOTE: Diagnosis requires longitudinal history from the patient and collateral sources
Personality disorders: MCQ

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Anxiety disorders: MCQ

- Depressed elderly patients with comorbid anxiety, in contrast to depressed elderly individuals without anxiety, usually have
  - A. Lower risk of suicide.
  - B. Reduced response rate to treatment.
  - C. Shorter time to achieve a response to treatment.
  - D. Fewer somatic symptoms.
  - E. Less suicidal ideation
Anxiety disorders

• There is a lot of controversy about the prevalence of anxiety disorders in late life
  – Different prevalence rates reported depending on which scale is used (DSM vs ICD-10)
  – Surveys in the elderly often don’t include all anxiety disorders (e.g. PTSD which was included with anxiety disorders in previous versions of DSM)
  – Qualitative differences in presentation of anxiety in elders may not be adequately captured by DSM5 criteria
    • Anxiety in dementia (can code neurocognitive disorder with behavioral disturbance)
    • Fear of falling (now coded as specific phobia)
    • Tending to focus on somatic symptoms and seek treatment for these alone such as seeking treatment for insomnia, muscle tension or cognitive complaints
Anxiety disorders

• There is also controversy about age of onset of anxiety disorders
• Classically this group of disorders are described as first appearing in childhood
• More recently, evidence points to bimodal distribution of onset
  – 2/3 onset in youth
  – 1/3 onset at 50 yrs or later
• Early and late onset disorders do not appear to be qualitatively different
• In general there is a decline in propensity for negative affect from adulthood to early elderly with a subsequent rise in the mid-70’s
• Aging can protect from anxiety or cause anxiety depending on circumstances
Anxiety disorders

• Decreased anxiety due to:
  – opportunities over a lifetime to
    • inoculate against the anxiety-producing nature of stressors
    • practice emotion regulation
  – age related degeneration of the locus coeruleus (less intense autonomic response)
Anxiety disorders

• Increased anxiety due to:
  – stressors such as chronic illness or disability in self or loved ones
  – age related degeneration of the dorsolateral prefrontal cortex may reduce ability to manage anxiogenic situations (executive function?)
  – use of anxiogenic medications
    • Anticholinergics
    • Psychostimulants
    • Steroids
Anxiety disorders

• Risk factors:
  – female gender
  – neurotic personality
  – chronic disability in self or spouse
• Comorbidity:
  – LASA (Longitudinal Aging Study Amsterdam) study found
    • 48% of elderly with MDD had a current comorbid anxiety disorder
    • 25% of those with anxiety disorders had comorbid MDD
    • combination associated with
      – increased somatic symptoms and suicidal ideation
      – decreased response rate
      – longer time to response to treatment of depressive symptoms
      – increased risk of completed suicide
Anxiety disorders

– GAD:
  • one of the most common mental disorders in elderly persons (maybe more common in the elderly)
  • most likely to present to a primary care provider

– Panic disorder:
  • Late onset panic disorder appears to be rare
  • may be a prodrome of a medical or neurologic problem
  • when it does occur it is with less frequent and less severe attacks
    – degeneration of the locus coeruleus
Anxiety disorders

– Phobias:
  • lifelong phobias more difficult to detect due to lifestyle accommodation
  • fear of falling
    – common
    – causes disability

– Social phobia and Agoraphobia:
  • appear less prevalent in the elderly
Anxiety disorders: MCQ

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  • B. Reduced response rate to treatment.
  • C. Shorter time to achieve a response to treatment.
  • D. Fewer somatic symptoms.
  • E. Less suicidal ideation
Sleep disorders: MCQ

- Extensive research has shown that marked changes in sleep and circadian rhythms accompany aging. Which of the following is an example of the changes that will occur with aging?
- A. Nocturnal sleep time increases.
- B. Time in stages 3 and 4 sleep increases.
- C. Nocturnal wake time increases.
- D. The amplitude of the sleep-wake cycle increases.
- E. Older adults tend to awaken at a later phase.
Sleep disorders

• More than 50% of non-institutionalized elderly report chronic sleep difficulties

• Most commonly cited reason is nocturia
  – reported in 63-72% of elderly with insomnia
  – Commonly caused by
  • BPH in men
  • decreased urethral resistance due to decreased estrogen in women
  • sleep apnea in both genders
Sleep disorders

• Divided into
  – Insomnias
    • primary
    • comorbid with medical or psychiatric disorders
      – relationship is thought to be bidirectional
        » major depression
        » pain disorders
  – Disorders involving excessive daytime sleepiness
    • (obstructive)sleep apnea (24-66% in community, Ancoli-Israel 2009)
    • PLMD (30-45% in people over 60)
    • RLS (28% in those over 65)
    • Narcolepsy
  – Disorders of circadian rhythm
    • can’t be asleep or awake when you want/ need to be
• Incidence for almost all sleep disorders increases with increasing age
Sleep disorders

• Normal changes with aging:
  – increased number of nocturnal awakenings
  – marked reductions in deep sleep
  – decreased amplitudes in the sleep-wake cycle
  – Phase advance (go to bed earlier and wake up earlier)
  – decrease in total sleep
  – increase in sleep latency (longer time to fall asleep)
Sleep disorders: MCQ

• Extensive research has shown that marked changes in sleep and circadian rhythms accompany aging. Which of the following is an example of the changes that will occur with aging?

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Sexual disorders

• The majority of older individuals remain sexually active

• Level of activity determined by:
  – gender (men are more so than women)
  – availability, interest and health of a partner
  – the individual’s health
  – individual’s previous level of activity

• Those who remain physically active on a regular basis experience greater sexual satisfaction
Sexual disorders

• Changes in normal aging include:
• In post menopausal women:
  – decreased sexual desire
  – increased discomfort
  – decreased intensity of orgasm
  – due to atrophy of urogenital tissue and decrease in lubrication, vasocongestion and erotic sensitivity
  – can be reversed in part with hormone replacement therapy including directly applied estrogen cream
Sexual disorders

• Changes in normal aging include:
• In men:
  – decreased anticipatory physical arousal
  – require more physical stimulation to achieve erections
  – orgasm may take longer to achieve
  – refractory stage can last hours to days instead of minutes to hours
Sexual disorders

• Most common form of sexual dysfunction in older men:
  – ED
  – 50% of men at 50
  – 70% of men at 70
  – usually a physiologic issue
  – 70-80% have a positive response to the use of PDE5 inhibitors
Sexual disorders

• Most common forms of sexual dysfunction in older women:
  – hypoactive sexual desire
    • maybe responds to testosterone replacement
  – inhibited orgasm
    • treated with individual sex therapy with relaxation techniques and encouragement of self stimulation followed by sensate focus exercises
  – dyspareunia
    • can be helped with HRT
    • may be chronic and require substitution of sensual exercises for intercourse when pain is prohibitive
Sexual disorders

• In individuals with dementia
  – sexual desire can remain strong
  – the rights to sexual expression should be respected with privacy and do not disturb signs
  – as long as the individual has the capacity to understand the relationship and can provide reasonable consent
Somatic Symptom and Related Disorders

- Undifferentiated somatoform disorder (Somatic Symptom Disorder DSM5)
  - prevalence as high as 13.8% in one community study in Italy
- Conversion disorder
  - reported in the elderly but more common in young women
  - in elderly, presence of comorbid illness can cloud the picture
  - the key in diagnosis is identification of the psychological conflict that is prompting the symptom
- Chronic pain
  - common finding in the elderly
  - reported in 50% of community dwelling elderly
  - reported in close to 70% of those in LTC
  - diagnosis is complicated by the frequent presence of multiple physical problems that could account for the pain and the dependence on subjective report
  - NOTE: the presence of dementia appears to increase pain threshold
As Alf grew older he began to have trouble with his joints
Alcohol and Drug Problems

• Will be significantly impacted by the arrival of the baby boomer cohort
• Projected that between the years 2000 and 2020 the number of older adults in substance abuse treatment will increase by 2.5 times!
• Increasing variety of substances including more illicit and OTC substance use
Alcohol and Drug Problems

• Older adults are more sensitive to the effects of alcohol and drugs (Prescribed, illicit, over the counter) for a number of reasons:
  – decreased metabolism in the gut wall leads to increased absorption
  – decreased volume of distribution due to decreased lean body mass and total body water thereby increasing serum concentration
  – age related decrease in enzymes to metabolize these substances
    • E.g. alcohol dehydrogenase
  – increased CNS sensitivity at any given dose
Alcohol and Drug Problems

• National institute on alcohol abuse and alcoholism recommends older adults consume no more than:
  – 7 standard drinks per week
  – no more than one (women) or two (men) drinks per day
Alcohol and Drug Problems

• Low risk social drinking may have positive health impacts
  – Regardless of type of beverage consumed
  – Less LDL, more HDL
  – Lower incidence of diabetes and CV related disability
  – Positive impact on subjective well being
Alcohol and Drug Problems

- In community samples
  - 2.4% of men
  - 0.4% of older women
  - meet criteria for alcohol abuse
    - 0.4% of men
    - 0.13% of older women
    - meet criteria for alcohol dependence

- In primary care:
  - between 5-10% of elderly screen positive for at risk drinking

- In geriatric mental health clinics:
  - 8.6% meet criteria for alcohol dependence

- Male LTC residents:
  - 29% have a lifetime diagnosis of alcohol abuse or dependence
  - 10% meet criteria for abuse or dependence within a year of admission
Alcohol and Drug Problems

• Commonly misused prescribed and OTC meds in the elderly:
  – Sedative/hypnotics
  – Narcotic and non-narcotic analgesics
  – Diet aids
  – decongestants

• Up to 11% of older women misuse prescription drugs
  – Use of benzodiazepines increases with age

• 87% of older adults regularly use OTC drugs
  – 5.7% regularly use >5 OTC meds concurrently
Alcohol and Drug Problems

• Classic features (e.g. craving) often absent
• Different demographic
  – 1/3 develop symptoms later in life
• Can be confused with medical illness, depression or dementia
Alcohol and Drug Problems

• Comorbidities:
  – 21% of elderly in treatment have comorbid affective disorder
    • About half of these are MDD
  – In a community sample, about half with alcohol abuse have comorbid depression or dysthymia
    • Likely reciprocal effects
    • Increased risk of suicide and social dysfunction with comorbid depression
  – 23% of older adults seeking treatment have alcohol related dementia
    • Once abstinent there is no progression in cognitive impairment
      – There may even be some improvement as fluid and nutritional deficits are replaced
Alcohol and Drug Problems

• CAGE (detects alcohol dependence; good specificity)
• SMAST-G (sensitive in detecting a broader range of alcohol misuse)
• ALSO important:
  – Ask the family
  – Home visits
Treatment and Prevention

• Psychopharmacology
• Psychotherapy
• Diet and exercise
Psychopharmacology in the elderly

• Remember:
  – Decreased GFR
  – Changes in density and activity of target receptors
  – Reduced liver size and blood flow
  – Decreased cardiac output
  – Increased polypharmacy
  – Increased cognitive impairment
  – Psychotropic meds not very extensively studied in the elderly
  – 66% of admissions to acute geriatric medical unit preceded by Rx of at least one inappropriate medication
  – Among patients taking appropriate medications, prevalence of ADR’s is 16%
• Be careful
Treatment of depression in the elderly

• Evidence vs expert opinion (Paroxetine and Fluoxetine)
• Experts favour the use of citalopram and sertraline due to:
  – favorable pharmacokinetic profiles
  – lower potential for clinically significant drug interactions
  – data suggesting their superiority in terms of cognitive improvement
• Usually started at half the minimal efficacious dose and doubled in one week (Start low, Go slow but Go!)
• Beware with SSRI s:
  – SIADH
  – increased risk of bleeding
  – bradycardia
  – increased risk of fractures through direct effects on bone metabolism
Treatment of depression in the elderly

• There is very little data on the use of other newer antidepressants in the elderly population; therefore use with caution

• Evidence currently suggests Bupropion, Duloxetine and Mirtazapine as second line therapy
Treatment of depression in the elderly

• Duloxetine
  – appears safe from preliminary data,
  – no need to change dosing based on age
  – low likelihood of significant drug-drug interactions
  – use caution as it often takes years before specific toxicity is recognised in the elderly

• Mirtazapine
  – very little data
  – can be constipating, QTc prolongation, and weight gain
  – concerns about its effects on cognition
    • has been shown to impair driving performance in healthy volunteers and cause delirium in patients with organic brain syndromes
Treatment of depression in the elderly

• Venlafaxine
  – second line agent for patients whose symptoms have not responded to an SSRI
  – in younger patients it shows a similar response rate but better remission than SSRI s
    • remission difference is most marked in females over fifty
  – higher doses required to benefit from adrenergic actions may be linked with increased side effects
    • hypertension
    • clinically significant hypotension
    • EKG changes
    • arrythmia
    • acute ischemia
Treatment of depression in the elderly

• Beers (1997) recommends that TCA’s and MAOI’s should be avoided in the elderly
• When a TCA is necessary (third line)
  – secondary TCA’s (desipramine/nortriptyline) preferred
    • linear pharmacokinetics
    • less anticholinergic effects
    • less risk of orthostasis and falls
• If an MAOI is required
  – phenylzine is preferred
  – more extensively studied in the elderly
Treatment of depression in the elderly

• Psychostimulants
  – quite commonly used for treatment of
    • apathy or anergia in late life depression
    • anergia
    • to augment SSRI’s with apathy as a long term side effect
  – very little empirical evidence
Treatment of Manic episodes

• Rule out medically induced manic episode
• Record baseline TSH, ECG, weight and renal function
• List all medical problems and concurrent meds:
  – drug interactions
  – worsening of physical problems
Treatment of Manic Episodes

- Antipsychotics until lithium can be given
- Lithium started at 150 mg (if frail) or 300 mg H.S
- Weekly increments of 150 mg
- Total dose needed often less than 600 mg/day
- Lithium levels: 0.6 and 0.9 mEq/L during mania and 0.4 to 0.8 mEq/L during maintenance period
Monitoring of elderly on Lithium

- Monthly lithium levels initially
- Periodic monitoring of weight, thyroid, renal and cardiac function
- Reminders about dehydration, diarrhea and meds which can increase lithium levels
Lithium: Drug interactions

- Diuretics
- N.S.A.I.D.'s
- ACE inhibitors
- ARB’s (Angiotensin II receptor blocker)
- Antipsychotics
- Tetracycline’s
- Decreased efficacy of aminophylline and opioids
- Decreased requirement for insulin
Lithium response in the elderly

- Response rate similar in young and old
- Higher incidence of side effects
- Some patients cannot tolerate
- Careful trial and monitoring warranted
- Geriatric adjustments in dose, timing, levels
Other mood stabilizers

• Divalproex Sodium
  – Rapid cycling, mixed episodes

• Carbamazepine (too anticholinergic?)

• Gabapentin, Topiramate, Lamotrigine
Treatment of psychotic disorders: MCQ

• In a consensus survey of 48 American experts on the treatment of older adults with late-life schizophrenia, the first-line medication treatment recommendation was
  • A. Aripiprazole.
  • B. Clozapine.
  • C. Olanzapine.
  • D. Quetiapine.
  • E. Risperidone.
Treatment of psychotic disorders

• Starting and maintenance doses of antipsychotics:
  – Lower in the elderly

• Late onset requires
  – 50% of dose of elderly with early onset
  – 25% of dose taken by younger patients with schizophrenia
Treatment of psychotic disorders

• Cumulative one year incidence of TD in the elderly is 29% with typical antipsychotic agents

• Atypicals:
  – as efficacious
  – less side effect burden
  – few studies comparing atypicals head to head in this population
Treatment of psychotic disorders

- Expert opinion recommends:
  - **First line**
    - risperidone
      - 1.25-3.3 mg/day for schizophrenia
      - 0.75-2.5 mg/day in delusional disorder
  - **Second line**
    - quetiapine
      - 100-300 mg/day SCF
      - 50-200 mg/day DD
    - olanzapine
      - 7.5-15 mg/day SCF
      - 5-10 mg/day DD
    - aripiprazole
      - 15-30 mg/day SCF only
Treatment of psychotic disorders

- Clozapine:
  - data supports the use moderate of dosages (50-200 mg/day)
  - in primary psychotic disorders that are refractory to other treatments in older patients
  - the use of clozapine in this population is quite difficult given the potential hematological, neurological, cognitive, metabolic and cardiac side effects as well as the need for regular blood work
In a consensus survey of 48 American experts on the treatment of older adults with late-life schizophrenia, the first-line medication treatment recommendation was

- A. Aripiprazole.
- B. Clozapine.
- C. Olanzapine.
- D. Quetiapine.
- E. Risperidone.
Treatment of personality disorders in late life

- CBT and insight oriented psychotherapy can be very helpful in higher functioning individuals who are not ill or incapacitated.
- Supportive and consistent psychotherapeutic contact can be beneficial in institutionalized individuals.
- Pharmacotherapy can be used for specific target symptoms but must be assessed to ensure it is helping and discontinued if not helpful due to the burden of polypharmacy in this population.
Treatment of late life anxiety

• There has been very little research in the pharmacotherapy of late life anxiety disorders

• Benzodiazepines:
  – Evidence that they are effective in reducing anxiety symptoms in the elderly
  – Significant concerns about their use in the elderly given the increased risk of
    • Falls
    • Cognitive impairment
Treatment of late life anxiety

- Small studies have demonstrated efficacy in late life anxiety disorders with:
  - citalopram
  - sertraline
- Buspirone can be of benefit in GAD, pharmacokinetics are not impacted by aging, appears to be well tolerated in the elderly
Treatment of sleep disorders in the elderly

• First step in treatment is proper diagnosis
  – start with a sleep log and a good history of associated symptoms

• A sleep referral is appropriate for suspected primary sleep disorders
Treatment of sleep disorders in the elderly

• Primary or comorbid insomnias and circadian rhythm disorders:
  – Sleep CBT concomitant with addressing comorbidities
    – Sleep restriction and Stimulus control
  – Pharmacologic strategies are second line including
    • Benzodiazepines and nonbenzodiazepines
      – beware motor and cognitive impairment, even zolpidem has been shown to double risk of hip fracture after controlling for age, gender and medical conditions
      – single dose of benzodiazepine can significantly impact cognitive and motor function in the elderly
    • Sedating antidepressants (which also have side effects to consider)
Treatment of sleep disorders in the elderly: CBT

Stimulus control therapy:

• go to bed when sleepy
• always get up at the same time
• bed is for sleep and sex only
• out of bed if not sleeping >15 mins
• no naps
Treatment of sleep disorders in the elderly: CBT

Sleep restriction therapy

• start with sleep log for 2 weeks
• calculate total sleep time
• give time in bed prescription
• adjusted by 20 minute increments per week depending on sleep efficiency of >85% and perceived daytime sleepiness

— exercise programs

• CBT as effective as meds in the short term, has enduring benefits and no side effects
Treatment of substance use disorders

• Older adults who engage in treatment tend to do as well or better than younger adults

• Older adults are more likely to complete treatment than younger adults

• Older adults respond best to age specific treatment vs mixed age group treatment
  – 2 times more likely to remain abstinent at one year follow-up after participating in age specific vs mixed age group

• Older adults are generally receptive to and responsive to brief interventions
  – Even single brief interventions have shown significantly reduced consumption one year later
Treatment of substance use disorders
Brief Alcohol Counseling

- Three components:
  - Expression of concern
  - Feedback relating drinking and health
  - Explicit advice to cut down
    - Goal
    - Contract
    - diary
- Leads to significantly decreased alcohol use at follow-up compared to controls
- Acceptable approach with the elderly population

Fleming et al., 1999
Treatment of Substance use disorders

Detox

- Supervised if: History of DT’s or seizures
  - Increased CIWA score
  - Dementia or executive dysfunction
- Ativan or oxazepam prn
- Naltrexone (reduces reward from endogenous endorphins) leads to 50% reduction in relapse to significant drinking but no more abstinence
- Disulfiram is not used in this age group due to significant cardiovascular risk
Treatment of Substance use disorders: Benzodiazepines

• Discontinuation symptoms
  – Experienced by 90% of elderly withdrawing from low daily doses

• Tapering schedule (outpatients)
  – 25% reduction per month
  – May need to reduce even more slowly as the dose reaches lower levels, especially with high potency &/or short half life
  – Sometimes low dose maintenance is best solution

• Outcome
  – Improvement in cognitive function
  – Improvement or no deterioration in anxiety, depression and insomnia

Sadavoy et al. 2004
Treatment of Substance use disorders: Benzodiazepines

- When to treat with a benzo
  - For ANXIETY that responds better to a benzo than other therapies
  - Reliable patient
  - No history of addiction
  - Can be supervised medically (ensure serial cognitive testing and screening for other side effects)
  - Patient and family informed of the potential side effects
  - Clearly document status and inform patient and family to never stop abruptly (hosp adm etc)
  - Keep in mind that dose may need to decrease with age

Sadavoy et al. 2004
Treatment of Somatoform Disorders

- Regular appointments
- Handle hostility by pointing to patient's disappointment
- Focus interview on interpersonal events (e.g. pain worse after arguments)
- Remain alert to possibility of treatable medical problems
- Acknowledge real pain and discomfort
Prevention
Prevention: diet and exercise

• The quality and quantity of life from 65 on is very responsive to the impact of lifestyle factors, especially diet and exercise choices
Prevention: diet and exercise

Diet

• proposed that consumption of polyphenolic compounds in foods can improve neural communication
  – blueberries

• mild to moderate consumption of alcohol correlated with reservation of cognitive function
  – red wine has the highest levels of phytochemicals

• consumption of monounsaturated and poly-unsaturated fats associated with reduced risk of cognitive decline and dementia
  – especially omega 3’s

• depression in the elderly is strongly linked with vascular disease; dietary strategies to prevent vascular disease may also help in the prevention of depression
  – mediterranean diet
Prevention: diet and exercise
Diet: unhealthy diet

- Chronic inadequate food intake can lead to weakness and fatigue
  - frailty
- Saturated and trans-unsaturated fats are detrimental to cognition as well as overall health
- Caloric needs decline with age
  - requirement for most nutrients does not
    - dietary nutrient density is important
    - often what happens is the veggies get dropped and replaced with comfort (high carb) foods
    - can result in masked frailty or sarcopenic obesity
Prevention: diet and exercise

Diet: recommendations

• serial weights best indicator of underweight status with a decline of:
  – 2% in one month
  – 5% in 3 months
  – 10% in 6 months
  – considered significant

• beware sarcopenic obesity

• recommended fibre intake of 20-30 grams per day (almost never met) can help in prevention of age related diseases such as diabetes and cancer

• thirst response is reduced in the elderly, recommended intake is 6 glasses per day

• experts support the use of a daily vitamin supplement to help meet daily requirements

• risks associated with supratherapeutic levels of many vitamins

• mediterranean diet and moderate amounts of red wine won’t hurt!
Prevention: diet and exercise

Exercise

- Preserves muscle mass and strength
- Preserves bone density
- Reduces risk of falls
- Linked with improved mood, sleep and quality of life
- Linked with many cognitive benefits including
  - delayed onset of dementia
  - higher MMSE scores
  - increased brain volumes
- In patients with mild to severe AD, an exercise regime decreases the rate of decline in the ability to perform ADL’s
- Aerobic exercise has been shown to be as effective in treating mild to moderate depression in the elderly as antidepressant medication!
- Moderate intensity aerobic activity for at least 10 minutes is necessary for health benefits
- 30 minutes of moderate (not intense) activity 5 times per week is ideal
  - supplemented by strengthening, flexibility and balance training
Questions?
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