Psychosis in the Elderly

Background

- Definition:
  - Psychosis is a common psychiatric symptom characterized by hallucinations and delusions[2]

2. General information:
   - Associated with aggressive or disruptive behavior
   - Source of great distress to caregivers
   - Can result in neglect and abuse of elderly patients
   - Persistent symptoms may lead to institutionalization

Pathophysiology

1. Causes of psychosis can include:
   - Pharmacological
     - Amphetamines, cocaine, PCP, methylphenidate
   - Psychiatric
     - Mania, major depression, schizophrenia
   - Infectious disease
     - Sepsis
   - Behavioral/environmental circumstances
     - Substance abuse
   - Degenerative diseases
     - Alzheimer's, Parkinson's dz
   - Organic disease
     - Brain damage
   - Vitamin deficiencies
     - B3 and B12
   - Alcohol withdrawal
   - Neurological carcinomas
     - Any space occupying mass/lesion
2. Incidence, prevalence:
   - Prevalence
     - 2-4.75% in community dwelling elderly
     - 10-65% in nursing home populations
   - Prevalence of common causes of psychosis
     - Schizophrenia
       - 0.6% of US population ages 45-65
       - 0.2% of 65+ population
       - Women at greater risk of late onset schizophrenia
     - Delirium[3,4]
       - Up to 60% in >70 yo nursing home residents
       - 14-56% of elderly, hospitalized patients
     - Polypharmacy is a major cause of psychosis in elderly[5]
       - Incidence 5.7 per 100
       - Prevalence 6.1 per 100[6]
     - Alzheimer's disease
       - Prevalence 33% >85 yo

        - Major depression with psychotic features
            - 0.4% of elderly
        - Bipolar disorder with psychotic features
            - 0.1-0.4% of adults >65 yo
3. Risk factors:
    - Schizophrenia
    - Alzheimer's dz
    - Parkinson's dz
    - AIDS
    - Cognitive decline/Dementia not otherwise specified
    - Diabetes (hypoglycemic episodes of psychosis)
    - ICU admission is an independent risk factor for delirium in older population[7]
    - Polypharmacy
    - Age-related pharmacokinetic and pharmacodynamic changes
    - Biopsychosocial risk factors:
        - Female
        - Low socioeconomic status
        - Presence of sensory or perceptual deficits
        - Immigrant status
        - Social isolation
4. Morbidity / mortality:
    - Psychiatric illness has significant negative impact on survival of elders[8]

Diagnostics

1. History:
    - Gather history from patient, caretakers, medical staff
    - Cognitive impairment may decrease accuracy
    - Review medication list (including OTC, herbals)
    - Substance use history
    - Elicit previous psychiatric history
    - Assess suicidality
    - Assess homicidality
2. Physical examination:
    - Vital signs
    - Fever could be a sign of delirium
    - Thorough neurological exam and psychological exams
    - Speech: rate, rhythm, volume
    - Type and quality of hallucinations/illusions (may be concealed by patient)
    - Thought processes:
        - Goal directed vs. derailed
    - Thought content:
        - Delusions, overvalued ideas, paranoia
    - Insight/judgment
3. Screening tests
    - Folstein Mini-Mental State Examination
        - Reliably differentiates between dementia/delirium (MMSE <23) and psychiatric disorders (MMSE >24)
    - Delirium Rating Scale

- Confusion Assessment Method
  - Sensitivity of 93-100% for diagnosis of delirium
  - Specificity of 90-95% (delirium)
  - Diagnosis of delirium requires presence of both features 1 and 2, plus either feature 3 or 4:
    - Acute onset and fluctuating course
    - Inattention, distractibility
    - Disorganized thinking, illogical or unclear ideas
    - Alteration in consciousness

4. Diagnostic testing
   - Laboratory evaluation
   - Chemistry panel
   - CBC
   - UA
   - Chest film
   - Toxicology screen
   - HIV and VDRL in high risk cases
5. Diagnostic imaging
   - Radiologic imaging:
     - Only if organic neurologic disorder or stroke is suspected
   - Head CT:
     - When no other cause can be found
6. Other studies
   - Lumbar puncture:
     - If patient has meningeal signs
7. Diagnostic criteria
   - Symptoms of psychosis vary by cause, but generally include some of the following:
     - Hallucinations (in any modality)
     - Delusions or diminished sense of reality
     - Disorganized speech
     - Disorganized and/or catatonic behavior

Differential Diagnosis

1. Key DDx: see Table
   - Dementia (37% of psychosis in elderly)
   - Affective disorder (major depression or bipolar disorder; 20% of psychosis in elderly)
     - Manic episode of Bipolar Disorder
     - Major Depression, severe
       - Mood congruent psychotic features
       - Mood incongruent psychotic features
   - Delirium (12% of psychosis in elderly)
   - Schizophrenia (0.1-0.5% of elderly population)
     - Early and late onset
     - 4% of schizophrenics very late onset (>age 65)

2. Extensive DDx
    - Neurological
        - Alzheimer's disease
        - Carcinomas
        - Neurological damage
        - Temporal Lobe Epilepsy
        - Multiple Sclerosis
        - Stroke
        - Toxins/Intoxications (marijuana)
    - Psychological
        - Delusional Disorders
        - Post Traumatic Stress Disorder
        - Substance-abuse Disorders
    - Infectious
        - Lyme disease
        - Neurosyphilis
        - AIDS Dementia
        - Leprosy
        - Malaria
    - Medication use/withdrawal[15]
        - Benzodiazepines
        - Antihistamines
        - Anti-Parkinsonian drugs
        - Anti-arrhythmics
        - Anti-inflammatory drugs
        - Anticonvulsants
        - Steroids
        - Anticancer agents
        - Opiates
        - Digoxin
        - Calcium channel blockers
        - SSRI (serotonin syndrome)
    - Other
        - Sleep deprivation
        - Vitamin B12 deficiency
        - Sarcoidosis
        - Parkinson's
        - Lupus
        - Electrolyte abnormalities
        - Dehydration
        - Hypoglycemia
        - Hypoxemia
        - Poisons
        - Hypertensive encephalopathy

Therapeutics

1. Acute treatment
    - Standard treatment for acute psychotic agitation
        - IM lorazepam and haloperidol[16]
        - Elderly have increased sensitivity to antipsychotics
            - Start low, titrate slowly
            - Scheduled dosing preferred over PRN
        - Efficacy: conventional antipsychotics = atypical antipsychotics[17]
        - Atypical antipsychotics < adverse effects
            - Now considered to be 1st line treatment in elderly
            - But Black box warning
                - "Elderly patients with dementia-related psychosis treated with atypical antipsychotic drugs are at an increased risk of death compared to placebo"[18]
            - Possible weight gain, hyperglycemia, diabetes
            - Antipsychotics associated with increased risk of:
                - Venous thromboembolism
                - Sudden cardiac death
                - Neuroleptic malignant syndrome
                - Dystonias, akathisia
                - Agranulocytosis
    - Major depression
        - Antidepressant plus antipsychotic
        - Consider ECT
    - Bipolar disorder
        - Lithium
            - Lower dose if impaired renal clearance, cardiac disease, or diuretic treatment
        - Divalproex
2. Further management (24 hrs):
    - Depends on etiology
    - Seizures-secondary to alcohol withdrawal
        - Benzodiazepines to prevent delirium tremens
    - Hypoglycemia, especially in diabetic patients
    - Monitor electrolytes
    - Monitor temperature
    - Volume status
    - In case of delirium
        - Keep pts oriented to date, time and place
        - Frequent monitoring
        - Rooms with windows help to keep sleep-wake cycle on track[19,20]
        - Stable staffing helps
3. Long-term care
    - Varies by cause of psychosis:
    - Psychotic depression:
        - Maintain antipsychotic 6 months[21]
    - Schizophrenia:
        - Referral to psychiatrist[22]

- Hypoglycemia:
  - Improve glucose management
- Stroke:
  - Physical and occupational therapy
- Intoxication:
  - Substance abuse counseling
- Alzheimer's and Parkinson's:
  - Antipsychotic drugs associated with higher mortality in patients with dementia
  - Mortality: Conventional antipsychotics > atypical antipsychotics in elderly

Follow-Up

1. Return to office
   - Time frame for return visit
     - After acute episode of psychosis, patient should have follow-up with their PCP within a week, then regular visits Q monthly until stable on medication
   - Recommendations for earlier follow-up- this depends on the cause of episode
2. Refer to specialist
   - Recommendations / urgency
     - If episode was due to psychiatric problem, psychiatric evaluation is urgent
   - Assessment by neurologist may be necessary if patient had stroke
3. Admit to hospital
   - Recommendations / urgency
     - Depending on situation, acute episode of psychosis may warrant hospital admission and workup
     - Patients in nursing home or hospice setting may not need hospitalization

Prognosis

1. Early onset schizophrenia[23]
   - Positive symptoms tend to decrease in severity with aging
   - Negative symptoms may become more severe with advancing age
     - Social and functional decline positively correlate with negative symptoms
   - Greater risk of cognitive deficits
   - Treatment resistance common
   - Positive symptoms respond to antipsychotics, sometimes partially
2. Late-onset schizophrenia
   - Positive symptoms prominent
   - Negative symptoms & formal thought disorder rare
   - Usually respond well to antipsychotic medications
3. Major Depression with psychotic features[24]
   - Only 10% "good outcome" at 1 year
   - Likely to require readmission within 5 years
   - 5x greater risk of suicide than non-psychotic depressed elders

- 2x greater risk of mortality than non-psychotic depressed elders (after controlling for health status)

4. Bipolar disorder with psychotic features
   - Greater suicide risk
   - High treatment resistance
   - Constant risk of manic episodes throughout lifespan

Prevention

1. It is crucial to obtain a thorough psychiatric history on every new patient
2. Evaluating your patient's medication list will help prevent complications due to polypharmacy

Patient Education

1. Psychosis explained (from government of Australia) http://www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Psychosis_explained?OpenDocument
2. Antipsychotic medications: (from government of Australia) http://www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Antipsychotic_medications_explained?open
3. Delirium and Dementia (Merk Home Manual) http://www.merck.com/mmhe/sec06/ch083/ch083a.html?qt=delirium%20&;alt=sh

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