Schizophrenia: A Psychotic Disorder

- Delusions
- Hallucinations
- Disorganized speech
- Disorganized behavior
- Psychotic symptoms more pronounced and disruptive than in other psychotic disorders

Four Main Symptom Groups of Schizophrenia

- Positive
- Negative
- Cognitive
- Affective

Etiology

- Biological factors
- Genetics
- Neurobiological
  - Dopamine theory
- Other neurochemical hypotheses
  - Serotonin
  - Glutamate
- ACh plus more.....
Etiology

- Psychological and environmental factors
  - Prenatal stressors
  - Psychological stressors
  - Environmental stressors

Dopamine Hypothesis

- Thorazine (chlorpromazine)
  - Excess of DA in the mesolimbic system
  - Reduction of DA activity in the frontal cortex
  - Correction does not eliminate all symptoms
  - More complex interaction of multiple NT involved

Serotonin

- Second generation antipsychotics
  - DA antagonist
  - $5HT_{2a}$ antagonist

Glutamate Hypothesis

- Glutamate hypofunction is associated with schizophrenic symptoms
  - Phencyclidine (PCP) can produce a full array of schizophrenic symptoms
  - PCP blunts NMDA glutamate receptor function
  - NMDA receptors
    - Regulate cognitive functions such as memory
    - Have direct influence on dopaminergic pathways
  - NMDA receptor does not function properly in schizophrenia
  - Nearly all of the genes implicated in schizophrenia play roles in glutamate function

Pathophysiology

- NT alterations as discussed previously
  - Brain structural abnormalities

Counseling: Communication Guidelines

- Associative looseness
  - Do not pretend that you understand
  - Place difficulty of understanding on yourself
  - Look for reoccurring topics and themes
  - Emphasize what is going on in the patient's environment
  - Involve patient in simple, reality-based activities
  - Reinforce clear communication of needs, feelings, and thoughts
Counseling: Communication Guidelines

- Hallucinations
  - Hearing voices (auditory hallucinations) most common
  - Approach patient in nonthreatening and nonjudgmental manner
  - Assess if messages are suicidal or homicidal
  - Ask directly what the voices are saying
  - Do not argue or negate patient perception
  - Offer your own perceptions (present reality)
  - Focus on reality based diversions
  - Patient anxious, fearful, lonely, brain not processing stimuli accurately
  - Initiate safety measures if needed

- Delusions
  - Be open, honest, matter-of-fact, and calm
  - Have patient describe delusion
  - Avoid arguing about content
  - Interject doubt when appropriate
  - Validate part of delusion that is real
  - Focus on feelings the delusions generate
  - Once delusion is described, do not dwell on it
  - Observe events that trigger delusions

Case Study

Sara, a 23 year-old single female, has just been admitted to the psychiatric unit by her parents. They explain that over the past few months she has become more and more withdrawn. She stays in her room alone, but lately has been heard talking and laughing to herself.

Sara left home for the first time at age 18 to attend college. She performed well during her first semester, but when she returned after winter break, she began to accuse her roommate of stealing her possessions. She started writing to her parents that her roommate wanted to kill her and that her roommate was turning everyone against her. She said she feared for her life. She started missing most of her classes and stayed in bed most of the time. Sometimes she locked herself in the closet. Her parents took her home, and she was hospitalized and diagnosed with Schizophrenia.

Sara has since been maintained on antipsychotic medication while taking a few classes at the local community college. Sara tells the admitting nurse that she quit taking her medication 4 weeks ago because the pharmacist is plotting to have her killed. She believes he is trying to poison her. She says she got this information from a television message. As Sara speaks, that nurse notices that she sometimes stops midsentence and listens; sometimes she cocks her head to the side and moves her lips as though she is talking.

Patient and Family Teaching for Schizophrenia

- Learn all you can about the illness
- Develop a relapse prevention plan
- Participate in family, group and individual therapy
- Avoid alcohol and drugs
- Learn ways to address fears and losses
- Learn new ways of coping
- Have a plan on paper of what to do in times of increased stress
- Adhere to treatment
- Maintain communication with supportive people
- Stay healthy by managing illness, sleep, and diet
- Balance

Pharmacologic Therapy

- Antipsychotic Medications
  - Alleviate symptoms of schizophrenia but cannot cure underlying psychotic processes.
  - Psychotic symptoms return with medication noncompliance.
  - Antipsychotic drugs are effective in:
    - Acute exacerbations of schizophrenia
    - Preventing or mitigating a relapse

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Pharmacological Interventions

- Antipsychotic medications
  - First Generation (Typicals)
    - Includes phenothiazines, thioxanthenes, butyrophenones
  - Second Generation (Atypicals)
  - Third Generation

Adverse effects of receptor blockage of antipsychotic agents

Class Side Effects

- Seizure
- Impotence
- Hyperprolactinemia

Refer to the antipsychotic side effect tables in the clinic syllabus for the specific “side effect profile” for the drug you will describe in your patho.

Extrapyramidal Side Effects (imbalance of dopamine/acetylcholine)

- Acute dystonic reactions
- Pseudoparkinsonism
- Akathisia
- Tardive dyskinesia

- Abnormal Involuntary Movement Scale (AIMS test)

Rare and Toxic Side Effects

- Agranulocytosis
- Cholestatic jaundice
- Anticholinergic toxicity (next slide)
- Neuroleptic malignant syndrome (NMS)

Addiction
What Is Addiction?

• National Institute on Drug Abuse (NIDA)
  • Not a disorder of choice
  • Chronic relapsing brain disease
  • Similar to diabetes, asthma, heart disease, it can be managed successfully
  • Relapse is not a failure - treatment needs to be reinstated, adjusted, or altered
  • Characterized by
    • Compulsive substance seeking and use
    • Substance use despite harmful consequences
    • Tendency to relapse

Substance Use Disorder

A problematic pattern of use leading to clinically significant impairment or distress, as manifested by at least two of the following, occurring within a 12-month period:

1. Using larger amounts or over longer periods than intended
2. There is a persistent desire or unsuccessful efforts to cut down or control use
3. A great deal of time is spent on activities necessary to obtain the substance, use the substance, or recover from it’s effects

Substance Use Disorder continued

4. Craving, or a strong desire or urge to use the substance
5. Recurrent use resulting in failure to fulfill major role obligations at work, school, or home
6. Continued use despite persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of use
7. Important social, occupational, or recreational activities are given up or reduced because of use
8. Recurrent use in situations in which it is physically hazardous

Substance Use Disorder continued

9. Use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance
10. Tolerance
11. Withdrawal

Mild: presence of 2-3 symptoms
Moderate: presence of 4-5 symptoms
Severe: Presence of 6 or more symptoms

Etiology

• Biological
  • Specific effects on selected neurotransmitters
  • Genetic predisposition

• Psychodynamic Theories
  • Defense against anxious impulses
  • Oral regression (dependency)
  • Self-medication for depression

• Behavioral
  • Positive reinforcement effects of drug-seeking behavior

Etiology Continued

Sociocultural
  • Social and cultural norms
  • Socioeconomic stress
The Brain Reward Pathway

Three Potential States

Intoxication

Overdose

Withdrawal

Alcohol Intoxication

<table>
<thead>
<tr>
<th>BAL (mg %)</th>
<th>Effect in Nontolerant Drinker</th>
</tr>
</thead>
<tbody>
<tr>
<td>.01-.06</td>
<td>Change in mood, behavior, and impaired judgment</td>
</tr>
<tr>
<td>.06-.10</td>
<td>Loss of inhibition, extroversion, depth perception impaired, reasoning impaired</td>
</tr>
<tr>
<td>.11-.20</td>
<td>Staggering, ataxia, emotional lability, reaction time/speech impaired</td>
</tr>
<tr>
<td>.21-.29</td>
<td>Stupor, blackouts, motor skills impaired</td>
</tr>
<tr>
<td>.30-.39</td>
<td>Severe depression, unconsciousness, and heart rate impaired</td>
</tr>
<tr>
<td>0.40</td>
<td>Coma</td>
</tr>
<tr>
<td>0.50</td>
<td>Death from respiratory depression</td>
</tr>
</tbody>
</table>

Alcohol Withdrawal vs. Alcohol Withdrawal Delirium

Withdrawal
- Early signs a few hours after decreasing alcohol
- Signs peak after 24 to 48 hours then rapidly disappear
- Signs and symptoms
  - Nausea/vomiting
  - Diaphoreis
  - Hyperalirtiness, insomnia
  - Tremor and jerky movements
  - Irritability, anxiety
  - Easily startled
  - "Shaking inside"

Alcohol Withdrawal Delirium (continued)

- Withdrawal delirium
  - A medical emergency that can result in death (10% mortality)
  - Sepsis, MI, fat embolism, peripheral vascular collapse, electrolyte imbalance, aspiration pneumonia, suicide
- Delirium peaks at 2 to 3 days after cessation of alcohol and lasts 2 to 3 days

- Signs and symptoms:
  - Tachycardia, diaphoresis, elevated blood pressure
  - Disorientation and clouding of consciousness
  - Visual or tactile hallucinations
  - Hyperexcitability to lethargy
  - Paranoid delusions, illusions, agitation
  - Fever (100° F to 103° F)
  - Grand Mal seizures
- To reduce patient's anxiety
  - Orient to time and place
  - Clarify illusions to reduce patient's terror
Wernicke-Korsakoff Syndrome (Alcohol Amnestic disorder)

- Wernicke’s encephalopathy
  - Acute phase of the syndrome
  - Degenerative brain disorder cause by lack of thiamine (B1)
  - Symptoms include mental confusion, vision impairment, stupor, coma, hypothermia, hypotension, and ataxia
- Korsakoff’s psychosis
  - Chronic phase of the disorder
  - Also caused by lack of thiamine
  - The heart, nervous and vascular system are involved
  - Symptoms include amnesia, confabulation, attention deficit, disorientation and visual impairment

Alcohol Withdrawal Delirium: Treatment

- Benzodiazepines
  - Tapering doses
- Thiamine
  - Prevents/treats encephalopathy
- Magnesium sulfate
  - Reduce seizures
- Anticonvulsants
  - seizure control
- Folic acid/multivitamins
  - Treat anemia/correct deficiencies

Psychopharmacology: Treatment of Alcoholism

- Naltrexone (ReVia/Vivitrol)
  - Reduces or eliminates alcohol craving
- Acamprosate (Campral)
  - Helps patient abstain from alcohol
- Topiramate (Topamax)
  - Works to decrease alcohol cravings
- Disulfiram (Antabuse)
  - Alcohol-disulfiram reaction causes unpleasant physical effects

CNS Depressants: Benzodiazepines, Sedative-Hypnotics, Barbiturates, ETOH (Continued)

- Intoxication
  - Slurred speech, incoordination, ataxia, drowsiness, disinhibition of sexual and aggressive impulses (GABA effect), impaired judgment, attention and memory disturbances
- Overdose
  - Cardiovascular or respiratory depression
  - Coma
  - Shock
  - Convulsions
  - Death

CNS Depressants

- Opiates
  - Morphine
  - Heroin
  - Codeine
  - Fentanyl
  - Methadone
  - Meperidine

Opiates

<table>
<thead>
<tr>
<th>Intoxication Effects</th>
<th>Withdrawal Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miosis ('pinned pupils')</td>
<td>Yawning</td>
</tr>
<tr>
<td>Decreased respiration</td>
<td>Insomnia</td>
</tr>
<tr>
<td>Hypotension</td>
<td>Irritability</td>
</tr>
<tr>
<td>Bradycardia</td>
<td>Rhinorrhea</td>
</tr>
<tr>
<td>Slurred speech</td>
<td>Panic</td>
</tr>
<tr>
<td>Drowsiness ('on the nod')</td>
<td>Diaphoresis</td>
</tr>
<tr>
<td>Psychomotor retardation</td>
<td>Cramps</td>
</tr>
<tr>
<td>Initial: euphoria</td>
<td>Nausea and vomiting</td>
</tr>
<tr>
<td>Later: dysphoria impaired:</td>
<td>Muscle aches</td>
</tr>
<tr>
<td>• Concentration</td>
<td>Chills and fever</td>
</tr>
<tr>
<td>• Judgment</td>
<td>Laceration</td>
</tr>
<tr>
<td>• Memory</td>
<td>Diarrhea</td>
</tr>
</tbody>
</table>

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Opiates continued

- Overdose
  - Dilated pupils
  - Respiratory depression
  - Coma
  - Shock
  - Convulsions
  - Death

Psychopharmacology: Treatment of Opioid Addiction

- Dolophine (methadone)
  - Synthetic opiate blocks craving for and effects of heroin
  - Only medication currently approved to treat pregnant opioid addict
- LAAM (L-α-acetylmethadol)
  - An alternative to methadone
- Naltrexone (Trexan, ReVia, Vivitrol)
  - Antagonist that blocks euphoric effects of opioids
- Prometa
  - Targets craving and reduces relapse
- Clonidine (Catapres)
  - Nonopioid suppressor of opioid withdrawal symptoms
  - Effective somatic treatment when combined with naltrexone

Treatment of Opioid Addiction Continued

- Buprenorphine (Subutex)
  - Partial opioid agonist
  - Blocks signs and symptoms of opioid withdrawal
- Naloxone/buprenorphine (Suboxone)
  - Partial opioid agonist/antagonist

Naloxone for Overdose

- For acute opiate overdose
- Naloxone auto-injector (Evzio)
- Naloxone nasal spray (Narcan nasal spray)
- Can be administered by family, friends, caregivers
- Provides verbal instructions similar to an automated defibrillator

CNS Stimulants: Cocaine, Crack, Amphetamines

- Intoxication
  - Dilated pupils
  - Tachycardia, elevated blood pressure
  - Nausea, vomiting
  - Insomnia
  - Aggressiveness, potential for violence
  - Impaired judgment, social and occupational functioning
  - Euphoria, paranoia, delusions, hallucinations, psychosis
  - Severe to panic levels of anxiety

CNS Stimulants: Cocaine, Crack, Amphetamines (Continued)

- Overdose
  - Respiratory distress
  - Ataxia
  - Hyperpyrexia
  - Convulsions
  - Coma
  - Stroke, Myocardial Infarction
  - Death

- Withdrawal
  - Fatigue, lethargy
  - Depression
  - Agitation, disorientation
  - Apathy
  - Anxiety
  - Sleeplessness
  - Craving
- Treatment
  - Symptomatic, supportive
Hallucinogens
LSD, Mescaline, Psilocybin

- Intoxication
  - Pupil dilation
  - Elevated pulse, temperature, respiration
  - Diaphoresis
  - Palpitations
  - Tremors
  - Incoordination
  - Paranoia, fear of going crazy, grandiosity, depersonalization
  - Synesthesia, hallucinations

- Overdose
  - Psychosis
  - Brain damage
  - Death

- Treatment
  - Supportive, anxiolytics
  - Minimal stimuli
  - Have one person stay with patient to “talk down” and reassure
  - Speak slowly and clearly in a low voice

Hallucinogens - PCP

- Intoxication
  - Vertical or horizontal nystagmus
  - Increased BP, pulse, temperature
  - Ataxia
  - Muscle rigidity, chronic jerking
  - Seizures
  - Belligerence, assaultiveness, impulsiveness, lability
  - Impaired judgment, social, occupational function
  - Hallucinations, paranoia
  - Bizarre behavior, regression

- Overdose
  - Psychosis
  - Hypertensive crisis
  - Respiratory arrest
  - Hyperthermia
  - Seizures

Treatment
- Acidify urine (cranberry juice, ascorbic acid, ammonium chloride)
- Minimal stimuli
- Do not attempt to talk down!
- Speak slowly, clearly, low voice
- Administer diazepam (muscle spasms, seizure risk), haloperidol (psychotic behavior)
- Medical interventions: hyperthermia, hypertension, respiratory distress, hyperventilation
- Caution: gastric lavage may cause laryngeal spasms or aspiration

Inhalants

- Volatile solvents
  - Spray paint
  - Glue
  - Cigarette lighter fluid
  - Propellant gases used in aerosols
- Intoxication
  - Excitation followed by drowsiness, disinhibition, staggering, lightheadedness, and agitation
- Overdose
  - CNS damage
  - Sudden death (V-fib)
- Treatment
  - Supportive

Rave and Techno Drugs/Club Drugs

- Common drugs
  - Ecstasy (3,4-methylenedioxymethamphetamine), also called MDMA, Adam, yaba, XTC
  - MDA (methylenedioxymethamphetamine) or “love”
  - MDE (3,4-methylenedioxethylamphetamine) or “Eve”
- Side effects
  - Euphoria, increased energy
  - Increased self-confidence
  - Increased sociability
  - Feeling of closeness to others
- Adverse effects
  - Hyperthermia, heart failure, kidney failure, acute dehydration

Date Rape Drugs

- Flunitrazepam (Rohypnol or “roofies”)
- γ-Hydroxybutyric acid (GHB)
- Colorless, tasteless, odorless
- Rapidly produces (within minutes):
  - Disinhibition
  - Relaxation of voluntary muscles
  - Anterograde or localized amnesia
Communication guidelines - Addiction
- Show empathy through active listening and feedback
- Maintain an interested, nonjudgmental, supportive approach
- Focus on client strengths
- Encourage the client to focus on the here and now if feeling overwhelmed
- Refrain from being pulled into power struggles, defending your position, or criticizing patient behaviors
- Discourage patient’s attempts to focus on only external problems (relationships, job-related, legal) without relating them to substance use

Communication Guidelines - Addiction
- Help patient analyze pros/cons so substance use
- Give non-judgmental feedback when patient tries to blame, rationalize, or minimize effects of drug use
- Maintain firm limits on manipulative behavior (mood swings, belligerence, aggressiveness, guilt, glamorizing substance use, special favors, etc.)

Substance Use Disorder Case Study
- The police bring Dan to the emergency department of the local hospital around 9:00 pm. His wife, Carol, called 911 when Dan became violent and she began to fear for her safety. Dan was fired from his job as a foreman in a manufacturing plant for refusing to follow his supervisor’s directions on a project. When cleaning up after his move, several partially used bottles of liquor were found in his work area.
- Carol reports that Dan has been drinking since he came home shortly after noon today. He bloodied her nose and punched her in the stomach when she poured the contents of a bottle from which he was drinking down the sink. The police responded to her call and brought Dan to the hospital in handcuffs. By the time they arrive at the hospital, Dan has calmed down, and appears drugged and drowsy. His blood alcohol level is 247mg/dL. He is admitted to the detoxification unit of the hospital with a diagnosis of Alcohol intoxication.

Case Study continued
- Carol tells the admitting nurse that she and Dan have been married for 12 years. He was a social drinker before they were married, but his drinking has increased over the years. He had been under a lot of stress at work, hated his job, his boss, and his new co-workers, and had been depressed a lot of the time. He never had a loving relationship with his parents, who are now deceased. For the past few years, his pattern has been to come home, start drinking immediately, and drinking until he passes out. She has tried to get him to go for help, but he refuses, saying he does not have a problem. Carol begins to cry and says to the nurse, “We can’t go on like this. I don’t know what to do.”

Patient and Family Teaching
- Addiction is a disease not a moral weakness
- It is up to the individual what they want to do about their addiction
- However, addiction negatively affects all family members/friends
- Identify “enabling” behaviors and teach strategies to adopt healthy boundaries/patterns
- Encourage families/friends to let the user experience the result of their behavior of substance use, not to make excuses or bail out the individual
- Tell family members they are not responsible for their family members substance abuse

Patient and Family Teaching
- Tell the patient and family to report any worsening signs of depression or suicidal thoughts
- Educate patient and family about the detrimental effects (consequences) of the substance(s) used
- Help the family identify community resources that will promote recovery and help prevent relapse
- Encourage individuals to reach out to their sponsor/family/friends before acting out on cravings/urges
- Educate the patient about the risk of HIV, hepatitis, and other diseases associated with substance use
Major Depressive Disorder

Other MDD Symptoms

- Vague somatic aches and pains
- Uncharacteristic anger/frustration
- Vegetative symptoms
  - Change in appetite
  - Change in sleep
  - Constipation
  - Lack of interest in sex

Etiology

- Biological factors
  - Genetic
  - Biochemical
    - Stressful life events
    - Alterations in hormonal regulation
    - Inflammatory process

Etiology (Cont.)

- Psychological factors
  - Cognitive theory
  - Beck’s negative triad
  - Learned helplessness
Communication Guidelines - Depression

- Acknowledge accomplishments without flattery or excessive praise (matter-of-fact)
- Help patients identify own personal strengths
- Help patient question underlying assumptions and consider alternate explanations

Communication Guidelines - Depression

- Work with patient to identify cognitive distortions (review T14-4)
  - Overgeneralizations
  - Self-blame
  - Mind reading
  - Discounting positive attributes

Communication Guidelines - Depression

- Accept patient’s negative feelings but set limits on amount of time for negative expression
  - Matter-of-fact style
  - Redirect to neutral topics

Communication Guidelines: Severely Withdrawn Patients

- Technique of making observations
- Simple, concrete words
- Allow time for response
- Listen for covert messages and ask about suicide plans
- Avoid platitudes
- Sit quietly with patient

Pharmacologic Therapy

Antidepressants

- SSRIs
  - First-line therapy
  - Indications
  - Adverse reactions
  - Potential toxic effects
- Serotonin syndrome
  - Rare and life-threatening event
  - Risk greatest when SSRI is administered in combination with monoamine oxidase inhibitor (MAOI)

Pharmacologic Therapy — cont’d

- Serotonin-norepinephrine reuptake inhibitors (SNRIs)
  - Venlafaxine (Effexor)
  - Desvenlafaxine (Pristiq)
  - Duloxetine (Cymbalta)
- Serotonin-norepinephrine disinhibitors (SNDIs)
  - Mirtazapine (Remeron)
- Norepinephrine reuptake inhibitors (NRI)
  - Roboxetine (Vestra, Edronax)
Pharmacologic Therapy — cont’d

- Serotonin Antagonist and Reuptake Inhibitor (SARI)
  - Trazodone (Desyrel)
  - Used as a non-addictive sleep medication at sub-therapeutic doses
  - Rare side effect: priapism

Pharmacologic Therapy — cont’d

- Norepinephrine Dopamine Reuptake Inhibitor (NDRI)
  - Bupropion (Wellbutrin XR, SR)
  - Helps in ADHD, chronic fatigue, sexual side effects from other antidepressants, anxiety disorders
  - No weight gain
  - Decreases seizure threshold, agitation, insomnia
  - Smoking cessation (Zyban)

- Serotonin Norepinephrine Disinhibitors (SNDI)
  - Mirtazapine (Remeron)
  - Used in the elderly for the usually adverse effect of weight gain

Tricyclic antidepressants (TCAs)

- Neurotransmitter effects
- Indications
- Adverse effects
- Contraindications

“Start low, go slow.”

Case Study

Sam is a 45 year old white male admitted to the psychiatric unit by his health care provider. Sam was becoming increasingly despondent over the past month. His wife reported that he had made statements such as “Life is not worth living” and “I think I could just take all those pills.” Sam says he loves his wife and children and does not want to hurt them but he feels they no longer need him. His wife appears to be very concerned about his condition, although in his despondency, he seems oblivious to her feelings.

Over the past few weeks, Sam has become more and more withdrawn. He speaks to few people at his office and is becoming more and more behind in his work. At home, he eats very little, talks to family members only when they ask a direct question, withdraws to his bedroom very early in the evening, and does not come out until time to leave for work the next morning. Today, he refused to get out of bed or go to work. His wife convinced him to talk to their family health care provider, who admitted Sam to the hospital.
Bipolar Disorder – DSM V

- A distinct period of abnormally & persistently elevated, expansive, or irritable mood and persistently increased goal-directed activity or energy, lasting at least one week and present most of the day, nearly every day
- Or any duration if hospitalization is required in bipolar disorder, type 1

Bipolar Disorder (continued)

- During the period of mood disturbance, 3 or more of the following have persisted (4 if the mood is only irritable):
  - Inflated self-esteem or grandiosity
  - Decreased need for sleep
  - More talkative or pressured speech
  - Flight of ideas or subjective feeling of racing thoughts
  - Distractibility
  - Increased goal-directed activity or psychomotor agitation
  - Excessive involvement in pleasurable activities that have a high potential for painful consequences

Hypomania

- Unequivocal change uncharacteristic of person when not symptomatic
- Observable by others known to patient
- Absence of marked impairment in social or occupational functioning
- Hospitalization not indicated
- Not due to substance abuse, medication, or other medical condition

Mania

- Behavior severe enough to cause marked impairment in occupational activities, usual social activities, or relationships
- Necessitates hospitalization to prevent harm to self or others, or there are psychotic features
- Symptoms not due to substance abuse, medications or other medical condition
Etiology

• Biological factors
  • Genetic
• Neurobiological
• Neuroendocrine

Psychosocial & Environmental Factors

• Stress
• Education
• Occupation
• Economic status
• Creativity

Communication With Patient Experiencing Mania

• Use firm, calm approach
• Use short and concise explanations
• Remain neutral: avoid power struggles
• Be consistent in approach and expectations
• Firmly redirect energy into more appropriate areas
• Act on legitimate complaints
• Convey limits, consequences

Pharmacological Interventions

• Lithium carbonate
  • First-line agent
  • Therapeutic and toxic levels
  • Therapeutic blood level: 0.8 to 1.4 mEq/L
  • Maintenance blood level: 0.4 to 1.3 mEq/L
  • Toxic blood level: 1.5 mEq/L and above
  • Takes 7 to 14 days to reach therapeutic levels in blood

Initial Treatment of Acute Mania Until Lithium Takes Effect

• Antipsychotics
  • Slow speech
  • Inhibit aggression
  • Decrease psychomotor activity
• Antipsychotic or benzodiazepine to prevent:
  • Exhaustion
  • Coronary collapse
  • Death

Lithium: Expected Side Effects

• Blood level: <0.4 to 1.0 mEq/L
• Signs
  • Fine hand tremor
  • Polyuria
  • Mild thirst
  • Mild nausea
  • General discomfort
  • Weight gain
Lithium: Expected Side Effects

- Blood level: <0.4 to 1.0 mEq/L
- Signs
  - Fine hand tremor
  - Polyuria
  - Mild thirst
  - Mild nausea
  - General discomfort
  - Weight gain

Lithium: Early Signs of Toxicity

- Blood level: 1.5 mEq/L
- Signs
  - Nausea
  - Vomiting
  - Diarrhea
  - Thirst
  - Polyuria
  - Slurred speech
  - Muscle weakness

Lithium: Advanced Signs of Toxicity

- Blood level: 1.5 to 2.0 mEq/L
- Signs
  - Coarse hand tremor
  - Persistent gastrointestinal upset
  - Mental confusion
  - Muscle hyperirritability
  - Incoordination

Lithium: Severe Toxicity - Continued

- Blood level: >2.5 mEq/L
- Signs
  - Confusion
  - Incontinence of urine or feces
  - Coma
  - Cardiac arrhythmias
  - Peripheral circulatory collapse
  - Abdominal pain
  - Proteinuria
  - Oliguria
  - Death

Lithium: Major Long-Term Risks

- Hypothyroidism
- Impairment of kidneys’ ability to concentrate urine
- See clinic syllabus for common side effects

Patient and Family Teaching for Lithium Therapy

- Effects of treatment
- Need to monitor lithium blood levels
- Side effects and toxic effects
- Effects of dietary salt and dehydration
- Check with physician before taking OTC medications
- Take with food to decrease stomach irritation
### Anticonvulsant Drugs

- Valproate (Depakote, Depakene)
- Carbamazepine (Tegretol)
- Lamotrigine (Lamictal)
- Gabapentin (Neurontin)
- Topiramate (Topamax)
- Oxcarbazepine (Trileptal)

### Antianxiety Drugs

- Clonazepam (Klonopin)
- Lorazepam (Ativan)

### Atypical antipsychotics

- Olanzapine (Zyprexa)
- Risperidone (Risperdal)

### Pathophysiology/Prep Sheets

Candace, age 32, recently moved to New York City from Omaha, Nebraska, where she had been working as a television reporter. She felt that Omaha had become “too boring” and wanted to experience the big city life. Candace has a history of bipolar 1 disorder, and has been maintained on lithium since she was 23 years old. Since she arrived to NYC, she has run out of her medication and has not found a health care provider to have her prescription renewed. She has been staying at an inexpensive apartment, using her savings to live on. She has been seeking employment, but it has been 2 months now, and she has been unable to find a job. She is becoming anxious because her savings are becoming depleted. She has lost weight and is having trouble sleeping.

### Case Study

Today after two failed interviews, Candace went into a bar and began drinking. She ordered several rounds of drinks for everyone in the bar and told the bartender to “put it on my tab”. The bartender called the police when Candace refused to pay her tab and became loud and belligerent. He said she began shouting that she knew the mayor, and he was going to help her find a job, and if they did not leave her alone, she was going to tell the mayor how they were treating her. She took out her cell phone and said she was calling the mayor.

When others in the room began to laugh at her, she began cursing and saying that “they would be sorry one day that they laughed at her.” When police arrived, Candace was resistant and had to be physically restrained. The police took her to the emergency department.
Define the diagnosis to your patient
- Etiology
  - Genetic rates
  - Chromosomal abnormalities
  - Brief mention of NT involved
  - Environmental contributors
  - Psychological theories

Pathophysiology
- Discuss NT in detail
- Brain structural abnormalities
- Hormonal alterations

Laboratory & Diagnostic tests – What abnormalities would you expect and why?
- Anticipated ineffective behaviors (symptoms)
  - Example for schizophrenia - discuss positive, negative, affective & cognitive symptoms
- Health teaching and promotion
  - Discuss important concepts to enhance the patient and family’s ability to understand and cope with the disease process

Nursing diagnoses
- The three most important ones
- Communication guidelines
- Medications
  - Look in your book and clinic syllabus first as this will highlight drug information better than a general drug resource
  - Do not rely solely on this presentation
  - Use outside resource if information not available in book or syllabus