Psychosis and
Antipsychotic Medications

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Psychosis

- Disordered/distorted sense of reality
- Disorganized behavior
Psychotic Disorders

- Schizophrenia
- Delusional disorder
- Schizoaffective disorder
- Psychosis with mood disorders (mania, depression)
- Substance-induced psychosis
- Psychosis due to General Medical Condition (delirium, temporolobal epilepsy)
Schizophrenia

- DSM V: >= 2 symptoms for at least 6 months
  - Delusions, hallucinations, disorganized speech, disorganized behavior/catatonia, negative symptoms

- Paranoid—Disorganized (hebephrenic) spectrum
- 1% prevalence.
- High heritability (First degree relative risk 10%)
- 1:1 gender
- Onset: late teens-early 20s (males earlier)
Schizophrenia Symptom Clusters

• Positive Symptoms
  – Delusions
    • Persecutory, erotomanic, jealousy, poverty, grandiose, nihilism, somatic
  – Hallucinations
    • Auditory, visual, tactile, olfactory, gustatory

• Negative symptoms
  – Apathy, anhedonia, affective flattening, alogia, avolition, asociality
Treatment--Medications

![Graph showing the trend of inpatients from 1950 to 1995. Key points: 1955: First antipsychotic drugs, 1965: Medicaid & Medicare enacted.](image-url)
Treatment—Medications

Classical/Typical/First Generation Antipsychotics (FGAs)
  D2 Blockers
  Assoc with EPS, hyperprolactinemia,

Atypical/Novel/Second Generation Antipsychotics (SGAs)
  Weaker D2 blocking; stronger HT2 blocking
  Assoc with weight gain, metabolic syndrome
Uses of Antipsychotics

- Primary psychotic disorders
- Substance induced psychosis
- Psychosis in Parkinson’s Disease
- Delirium
- Aggression
- Mania
- Depression
- Borderline Personality Disorder
- Sedation
- Tourette’s syndrome
- Nausea, Hiccups, Vomiting
First Generation Antipsychotics

(aka neuroleptics, typical or classic antipsychotics)

- Haloperidol/Haldol
- Fluphenazine/Prolixin
- Perphenazine/Trilafon
- Chlorpromazine/Thorazine
- Pimozide/Orap
- Thioridazine/Mellaril
- Loxapine/Loxitane
Extrapyramidal Side Effects (EPS) **Acute**

- **Parkinsonism**
  - **Anticholinergic Rx**
    - Trihexiphenidyl/Artane
    - Benztropine/Cogentin
    - Biperiden/Akineton
  - **Antihistamine Rx**
    - Diphenhydramine/Benadryl
  - **Dopaminergic Rx**
    - Amantadine/Symmetrel
Extrapyramidal Side Effects (EPS)  

Acute  

- **Acute Dystonia**  
  - Anticholinergic Rx  
    - Benztropine/Cogentin  
  - Antihistamine Rx  
    - Diphenhydramine/Benadryl  
  - Benzodiazepines  
  - Botulinum toxin
Extrapyramidal Side Effects (EPS)  

**Acute**

- **Akathisia**
  - Beta Blocker
    - Propranolol
  - Benzodiazepines
Extrapyramidal Side Effects (EPS) *Late Onset*

- Tardive Dyskinesia
- Tardive Dystonia
Neuroleptic Malignant Syndrome (NMS)

- 1-2% of pts taking FGAs. Also occurs in SGAs
- Fatal in <= 20% of cases
- 80% occur in first 2 weeks of treatment
- Sxs: hyperpyrexia, altered consciousness, dystonia, autonomic NS dysfunction (hypotension, hypertension, tachycardia, diaphoresis.
- Labs: Incr WBC, CPK, myoglobinemia/uria
- Can last up to 14 days
- Discontinue Rx.
Side Effects/Cautions--FGAs

- Seizures
- CVA
- Catatonia
- Hyperprolactinemia
Second Generation Antipsychotics

(aka Atypical Antipsychotics)

- Clozapine/Clozaril
- Olanzapine/Zyprexa
- Quetiapine/Seroquel
- Risperidone/Risperdal
- Aripiprazole/Abilify
- Ziprasidone/Geodon
Clozapine/Clozaril

- Most effective antipsychotic
- Least likely to cause EPS/TD
- Helpful for psychosis with Parkinson’s Disease
- Reduces aggression and suicidality

Risks
- Sedation
- Sialorrhea
- Weight gain
  - Average 10 pounds
  - Assoc with Diabetes
- Seizures
  - 5-10% pts (usu at doses >600 mg/d)
- Agranulocytosis
  - <1%
  - Registry and WBC checks
Olanzapine/Zyprexa

• Derived from Clozapine
• Dose range: 5-30 mg/d
• PO forms (tablet and orally disintegrating form)
• IM form (5x po availability; avoid concurrent use with benzos)
• Effective
• Poorly tolerated (weight gain, sedation)
• Kinetics affected by age and gender
Quetiapine/Seroquel

• Also derived from Clozapine
• Approved for Schizophrenia, mania and bipolar depression
• Dosing: 150-800 mg

• Kinetics affected by age but not gender, smoking, body weight
Risperidone/Risperdal

- Approved in 1984 for Schizophrenia, acute mania
- PO formulation (tabs and orally disintegrating tab)
- Dosing: 0.5-8 mg/d
- IM formulation

- Assoc with akathisia, hyperprolactinemia, sedation
Aripiprazole/Abilify

• Structurally unrelated to other SGAs

• Approved for Schizophrenia, mania, mixed mania and for augmentation of antidepressants

• Dose range 5-20 mg/d
Ziprasidone/Geodon

- Less likely to cause Metabolic Syndrome, EPS, prolactinemia
- PO form
- IM form

- Dosing 80-160 mg/d
Side Effects/Cautions--SGAs

• Weight gain

• Metabolic Syndrome:
• central obesity + (>=2: raised fasting glucose, hypertriglyceridermia, hypertension, reduced HL
Depot (im) Antipsychotics

Loading dose: 20x oral dose (ie 20 x 4-8 mg)
Then, monthly decrease to 15x, 12x, 10x.
Usually, 10x is maintenance dose
injection q 4 wks

Loading dose formula is less worked out
Usual po dose 2-8 mg/d
injection q 3 wks
Monitoring

• Compliance
• Involuntary movements/EPS
  – AIMS
• Health
  – Obesity
  – Drug use
  – Smoking
Abnormal Involuntary Movements Scale (AIMS)

**Facial and Oral Movements**
- Muscles of Facial Expression: eg, movements of forehead, eyebrows, periorbital area, cheeks; include frowning, blinking, smiling, grimacing
- 1. Lips and Perioral Area
- 2. Jaw eg, biting, clenching, chewing, mouth opening, lateral movement
- 3. Tongue
- Rate only increases in movement both in and out of mouth, NOT inability to sustain movement

**Extremity Movements**
- Upper (arms, wrists, hands, fingers)
- Include chronic movements (ie, rapid, objectively purposeless, irregular, spontaneous); athetoid movements (ie, slow, irregular, complex, serpentine). DO NOT include tremor (ie, repetitive, regular, rhythmic).
- Lower (legs, knees, ankles, toes)
- eg, lateral knee movement, foot tapping, heel dropping, foot squirming, inversion and eversion of foot

**Trunk Movements**
- 7. Neck, shoulders, hips
- eg, rocking, twisting, squirming, pelvic gyrations

**SCORING:**
- Score the highest amplitude or frequency in a movement on the 0-4 scale, not the average.
- Score Activated Movements the same way; do not lower those numbers as was proposed at one time.
- A POSITIVE AIMS EXAMINATION IS A SCORE OF 2 IN TWO OR MORE MOVEMENTS or a SCORE OF 3 OR 4 IN A SINGLE MOVEMENT
- Do not sum the scores e.g. a patient who has scores 1 in four movements DOES NOT have a positive AIMS score of 4.

**Overall Severity**
- 8. Severity of abnormal movements
- 9. Incapacitation due to abnormal movements

10. Patient’s awareness of abnormal movements (rate only patient’s report)

**Dental Status**
- 11. Current problems with teeth and/or dentures?
- 12. Does patient usually wear dentures?

**Comments:**

Examiner’s Signature ___________________________ Next Exam Date ___________________________