Psychiatric Medications: Indications, Side Effects & Issues

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Medication Assessment

- Medication lists, history
- Side effect profile
- Tolerance
- Blood work
- Allergies
- Idiosyncrasies

Assessment Issues

- Why drugs on board?
- Are they effective?
- Side effects?
- Newer drugs with less side effects?
- Costs
- Compliance issues
- Patient education & understanding
Other Medications

- Generic vs. trade
- OTCs
- Pain
- Medical conditions
- Vitamins
- Complementary

Pharmacokinetics & Aging

- Absorption is slowed
- Total body water & lean body mass is ↓
- ↑ total body fat (women)
- ↓ renal blood flow & filtration
- ↓ liver enzyme activity
- ↓ receptor activity

Goals

- Remission over decrease in symptoms
- Combination of medications & therapy most effective
- Prevention
- Recurrence risks
Past Categories

- Antidepressants to treat depression
- Antianxiety drugs to treat anxious states (& sleep)
- Antimanic drugs to treat bipolar
- Antipsychotics to treat psychosis

New Categories

- Antidepressants treat anxiety
- Anxiolytic drugs treat psychoses, depressive sx & BAD
- All categories treat eating, panic & impulse-control disorders
- Overlap in terms

Antidepressant Categories

- Tricyclics
- SSRIs
- SNRIs
- MAOIs
- Mood Stabilizers
In the olden days

- Minor tranquilizers
- Major tranquilizers

Antidepressants

- Celexa (Citalopram)
- Cymbalta (Duloxetine)
- Effexor (Venlafaxine)
- Lexapro (Escitalopram)
- Luvox (Fluvoxamine)
- Paxil (Paroxetine)

Antidepressants

- Prozac (Fluoxetine)
- Norpramin (Desipramine)
- Remeron (Mirtazapine)
- ?Desyrel (Trazadone)
- Wellbutrin (Buproprion)
- Zoloft (Sertraline)
Chemical “Jobs”

Serotonin
  Regulates
    mood
    sleep
    emesis
    sexuality
    appetite
    impulsiveness/aggression

Serotonin Medications
  • Prozac
  • Zoloft
  • Paxil
  • Celexa
  • Lexapro
  • Luvox

Chemical “Jobs”

Dopamine
  Attention
  Pleasure
  Emotions
  Reward
  Motivation
  Movement

Norepinephrine
  Vigilance
  Observance
  Daydreaming
  Heart/BP rates
  Stress
### Examples

<table>
<thead>
<tr>
<th>Dopamine Stimulants</th>
<th>Norepinephrine Tricyclics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antipsychotics</td>
<td>MAOIs</td>
</tr>
<tr>
<td></td>
<td>Amphetamines</td>
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<tr>
<td></td>
<td>ECT</td>
</tr>
</tbody>
</table>

### Tricyclics

- Norpramin (Desipramine)
- Tofranil (Imipramine)

### Concerns

- Mania - drug-induced
- Sedation
- Orthostatic hypotension
- Cardiac effects
- Anticholinergic effects
  - dry mouth, constipation, blurred vision, urinary retention
SSRIs

- SSRIs (Serotonin-specific reuptake inhibitors)
  - inhibits the reuptake of serotonin w/o seriously effecting the reuptake of dopamine & norepinephrine

SSRIs

- Prozac
- Zoloft
- Celexa
- Lexapro
- Luvox
- Paxil

Concerns

- Anxiety
- Insomnia
- GI symptoms
- Headache
- Appetite
- Sexual dysfunction
SSNRIs

SNRI (Serotonin-norepinephrine reuptake inhibitors)
- Effexor
- Cymbalta

Concerns
- Headache
- Somnolence
- Dizziness
- Nervousness
- Appetite
- Insomnia

MAOIs
- Nardil (Phenalzine)
- Marplan (Isocarboxazid)
Concerns

- Blood pressure problems
- Dietary requirements
- Weight gain
- Insomnia
- Edema
- Drug-drug interactions

Other

- Remeron

Dosing Information

<table>
<thead>
<tr>
<th>Drug</th>
<th>Depression Dose Range</th>
<th>Half Life</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citalopram</td>
<td>20-60 mg QD</td>
<td>36 hr</td>
</tr>
<tr>
<td>Escitalopram</td>
<td>10-30mg QD</td>
<td>27-32hr</td>
</tr>
<tr>
<td>Fluoxetine</td>
<td>20-80 mg QD</td>
<td>4-16d</td>
</tr>
<tr>
<td>Paroxetine</td>
<td>20-50 mg QD</td>
<td>21hr</td>
</tr>
<tr>
<td>Sertraline</td>
<td>50-200 mg QD</td>
<td>26 hr</td>
</tr>
<tr>
<td>Bupropion SR</td>
<td>300-400 mg (BID dose)</td>
<td>21 hr</td>
</tr>
<tr>
<td>Bupropion XL</td>
<td>150-450mg QD</td>
<td>21hr</td>
</tr>
</tbody>
</table>
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<tr>
<th>Drug</th>
<th>Depression Dose Range</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Mirtazapine</td>
<td>15-45 mg QD</td>
<td>20-40 hr</td>
</tr>
<tr>
<td>Nefazodone</td>
<td>200-600 mg (BID dose)</td>
<td>2-4 hr</td>
</tr>
<tr>
<td>Venlafaxine XR</td>
<td>75-225 mg QD</td>
<td>5-11 hr</td>
</tr>
<tr>
<td>Duloxetine</td>
<td>30-90mg QD</td>
<td>8-17 hr</td>
</tr>
</tbody>
</table>

### Depression Issues

- Adequate trial of medications & dosages
- 3 trials before next option
- Agitated vs. psychomotor retardation
- Previous response
- Acuteness
- Combination therapy

### Augmentation Strategies

- Lithium
- Thyroid
- Another antidepressant
- Mood stabilizers
BAD Symptoms

- Energy, activity, restlessness
- "High," euphoric mood
- Racing thoughts, rapid speech
- Distractable
- Poor judgement
- Unrealistic beliefs

BAD Symptoms

- Spending sprees
- Provocative, intrusive, aggressive behavior

Medication Rationale

- Treat acutely
- May need rapid acting drug then
- Start mood stabilizer
  - Takes longer to build up
  - Monitor, evaluate, adjust
Mood Stabilizer Indications
- Augmentations
- Bipolar Disorders
- Resistant Depressions
- Severe Anxiety
- OCD

Mood Stabilizers
- Depakote (Valproic Acid)
- Eskalith (Lithium)
- Lamictal (lamotrigine)
- Tegretol (Carbamazepine)
- Antipsychotics
  - Resperdol
  - Symbyax
  - Abilify

Concerns
- GI symptoms
- Skin disorders
- Confusion
- Blood levels required
  - CBC w platelets
  - LFT, lytes
  - ECG
Anxiety Treatments

- Psychotherapy, Behavioral Supportive & Milieu
- Psychopharmacological: Short-acting Anxiolytics, Longer-acting for Severe Problems
- Combination
- Referral to Behavioral Medicine Clinician

Anxiolytics

- Short Acting Anxiolytic
  - Ativan (Lorazepam)
  - Xanax (Alprazolam)
- Buspar (Buspirone)
- Desyrel (Trazadone)
- Long Acting Anxiolytics
  - Valium (Diazepam)

Indications

- Anxiety
- Insomnia
- Depression
- BAD
- Panic & Social Phobias
- Akathisia
- Medical Indications
- Other Psychiatric Indications
Antipsychotic therapy: Historical perspective in the United States

- Reserpine
- Chlorpromazine
- Fluphenazine
- Thioridazine
- Haloperidol
- Ziprasidone
- Clozapine
- Quetiapine
- Olanzapine
- Aripiprazole
- Risperidone


Thought Disorders
- Schizophrenia
- Paranoia/Delusions
- Psychosis
  - Depression
  - Dementia
  - BAD
  - Sensory Loss

Antipsychotic Action
Treat psychosis caused by increased dopamine activity in the areas of the brain involving emotional behavior, voluntary movement, & inhibition of prolactin secretion
Antipsychotic Drugs

Drugs block receptors that control agitation, delusions, & hallucinations
They can cause serious side effects which need to be monitored for

Antipsychotics

- Abilify (Aripiprazole)
- Geodon (Ziprasidone)
- Resperidol (Resperidone)
- Seroquel (Quetiapine)
- Zyprexa (Olanazpine)

Considerations in prescribing atypical antipsychotics

- Efficacy in
  - positive symptoms
  - negative symptoms
  - depressive symptoms
  - cognitive symptoms
- Potential for side effects
  - weight gain
  - prolactin elevation
  - sedation
dyslipidemia
- metabolic effects (glucose dysregulation)
Symptoms of schizophrenia

Positive Symptoms:
- Delusions
- Hallucinations
- Unusual behavior

Mood Disturbances:
- Dysphoria
- Depression

Social/Occupational Dysfunction:
- Self-care
- Relationships

Negative Symptoms:
- Flat affect
- Social withdrawal
- Emotional withdrawal

Cognitive Changes:
- Attention
- Memory
- Executive functioning
- Decision making

Symptoms of schizophrenia

Black DW et al. Introduction to Biological Psychiatry. 2001;204-228.
Stahl SM. Essential Psychopharmacology. 2nd ed. 2000;385-386.

Antipsychotics

- Traditional
- Atypical (new generation)

Considerations in prescribing atypical antipsychotics

- Potentially improved compliance rates
- Reduced incidence of EPS compared with conventional agents
- Potentially reduced TD liability

Atypical Tips

Before starting
• Blood pressure
• Blood work: liver chemistries, metabolic panel (FBS)
• Cardiac status: ECG- check for QTc prolongation
• Stroke risk

Atypical Tips

Assessment of potential side effects
• Anxiety - causes or treats?
• EPS/parkinsonian symptoms
• GI symptoms
• Increased prolactin levels
• Increased risk for diabetes
• Insomnia vs sedation
• Orthostatic blood pressure changes
• Weight gain

Atypical tips

Formulation
• How to administer?
• Once-daily or multiple dosing
• Tablets, dissolvable, liquids, or IM
Abilify

- Schizophrenia, BAD, Dementia
- Tablets, liquid, once daily
- Slight risk of seizures
- Side effects
  - Headache, constipation, weight gain, hypotension
  - Akathesia, anxiety

Geodon

- Schizophrenia, BAD, Paranoia
- Can treat depression
- Use cautiously with MIs, arrhythmias, prolonged QT interval
- Tablets, IM, twice daily
- Side effects
  - Somnolence or restlessness, agitation
  - Dizziness
  - Akathesia/EPS

Risperdol

- Psychotic disorders
- Tablets, liquid, 2-3 times daily
- Side effects
  - Increased BP, stroke risk, orthostatic BP, QTc changes
  - Akathesia, restlessness, agitation, anxiety
  - Weight gain/loss, constipation
**Seroquel**

- Manage psychotic disorders
- Tablets 2-4 times daily
- Side effects
  - Akathesia, restlessness, drowsiness
  - Weight gain, constipation, indigestion
  - Palpitations, increased BP

**Zypréxa**

- Schizophrenia, BAD, psychosis
- Oral, IM, dissolvable, once daily
- Side effects
  - Weight gain, NMS, restlessness, somnolence,
  - BP changes, increased prolactin
  - CVD/stroke risk with elderly

**Anticholinergics**

- Drug-induced movement disorders
  - Cogentin (Benztropine)
  - Akineton (Biperiden)
  - Artane (Trihexyphenidyl)
Concerns

- Metabolic Syndrome
  - Lipids, LFTs, Thyroid, FBS, weight gain, waist
- Long-term side-effects
- Dosing issues
- Adequate follow-up

Pearls

- All drugs have side effects
- All drugs have risks/benefits
- Observation, assess, & monitor
- Quality of life issues
- Long-term use & concerns
- Weaning
- Newer drugs & information
- Ask questions

Resources

National Institute of Mental Health
  - www.nimh.nih.gov/publication

Federal Drug Administration
  - www.fda.gov/cder/index.html

Individual Drug