

PSYCHIATRIC MEDICATION

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NEUROTRANSMITTERS AND RECEPTORS

- Norepinephrine, alpha 1 and 2 and beta receptors
- Serotonin -- 5HT receptors
- Dopamine -- D1, D2, D3 D4 receptors
- Acetylcholine
- Histamine
- Glutamate
- GABA
- Hormones

PSYCHIATRIC DISORDERS

- Mood disorders –Major depressive (MDD) and bipolar disorder, mood disorder due to general medical condition, substance induced mood disorder
- Schizophrenia
- Schizoaffective disorder
- Psychosis
- Anxiety disorders including PTSD

MAJOR DEPRESSIVE DISORDER

- Five or more of the following for two weeks
 - depressed mood most of the day** OR
 - decreased interest or pleasure**
 - weight loss or weight gain
 - insomnia or hypersomnia
 - psychomotor agitation or retardation
 - fatigue or loss of energy
 - feelings of worthlessness or excessive guilt
 - concentration or thinking difficulties
 - recurrent thoughts of death or suicide

MANIA

- Mania—three or more of the following over one week, hypomania—four days
 - inflated self esteem or grandiosity
 - decreased need for sleep
 - more talkative or pressure to keep talking
 - flight of ideas
 - distractibility
 - increased goal directed activity
 - buying sprees, sexual indiscretions

BIPOLAR DISORDER

- Episodes of mania or hypomania, at times followed by depression
- Cyclical acceleration over time
- Episodes can be mixed
- Has been misdiagnosed as schizophrenia
- 90% relapse rate when not on medication
- Antidepressants should be used gingerly
- Suicide rates of up to 15%

ANXIETY DISORDERS

- Agoraphobia
- Panic disorder
- Simple phobias
- Social anxiety disorder
- Obsessive-Compulsive disorder
- Generalized anxiety disorder
- Anxiety disorder due to a general medical condition
- Substance induced anxiety disorder
- Acute stress disorder
- PTSD

PTSD

- Exposed to traumatic event with threat of death or serious injury and have a response of fear, helplessness or horror
- Re-experience with memories, dreams
- Persistent avoidance—detachment, decreased interest, foreshortened sense of the future
- Increased arousal—sleep problems, anger, concentration problems, hypervigilance, startle

MEDICATIONS FOR DEPRESSION

- **SSRIs** Fluoxetine (Prozac), sertraline (Zoloft), paroxetine (Paxil), citalopram (Celexa), fluvoxamine (Luvox)
- Blocks the reuptake of serotonin
- SE include initial anxiety, nausea, headache, insomnia, decreased appetite initially followed by weight gain, delayed ejaculation, anorgasmia, decreased libido, sweating, hyponatremia

ANTIDEPRESSANTS

- **SNRI**—venlafaxine, duloxetine, bupropion, mirtazapine
- Blocks the reuptake of both serotonin norepinephrine
- SE include nausea, insomnia, sedation, increase in BP, agitation, some sexual side effects
- SSRIs and SNRIs can also be used to treat anxiety disorders

ANTIDEPRESSANTS

- **TCA**--Tricyclic antidepressants—
amitriptyline, doxepin, imipramine,
desipramine, nortriptyline
- Blocks the re-uptake of serotonin and NE
- SE includes anticholinergic (dry mouth,
blurred vision, constipation, urinary
retention); weight gain; CV (orthostasis,
P-R elongation, widening of T waves);
narrow therapeutic window

ANTIDEPRESSANTS

- **MAOIs**—phenelzine and tranylcypromine
- **Lithium**—used mainly as adjunct
- **Stimulants**—for short term use only

TREATMENT FOR DEPRESSION

- Treatment is generally for 6-12 months
- If one episode, chance of second episode is up to 50%
- If two episodes, chance of third episode is 70-90%
- If three episodes, chance of further episodes is >90%
- 2+ episodes = life long medication

DISCONTINUATION SYNDROME

- SSRIs and SNRIs should be tapered as opposed to stopped abruptly
- **Discontinuation syndrome** consists of diaphoresis, flu-like symptoms, dysphoria

MOOD STABILIZERS

- **Lithium**—weight gain, acne, fine tremor with a coarse tremor when dose is toxic, polyuria, nephrogenic diabetes insipidus, metallic taste; over years can lead to mild creatinine elevations, hypothyroidism
- **Valproic Acid**—weight gain, hepatotoxicity, thrombocytopenia, pancreatitis,
- **Carbamazepine/oxcarbazepine**—decreased white count, hepatotoxicity, hyponatremia
- **Lamotrigine**—rare rash which can be life-threatening (Stevens Johnson)
- **Gabapentin**—only case reports—no studies

SCHIZOPHRENIA

- Two or more of the following present for at least one month
 - Delusions
 - Hallucinations—generally auditory
 - Disorganized speech--derailment and word salad
 - Disorganized or bizarre behavior
 - Negative symptoms--flat affect, alogia, avolition
- Anhedonia, thought poverty, social withdrawal
- Cognitive deficits with executive functioning problems
- 10% suicide

SCHIZOAFFECTIVE DISORDER

- Major depression, mania or mixed episodes concurrent with schizophrenia
- Delusions or hallucinations present for two weeks without any mood symptoms
- Mood symptoms have to be present for a substantial portion of the total duration of the illness

Atypical Antipsychotics

- Risperidone (Risperidol)
- Olanzapine (Zyprexa)
- Quetiapine (Seroquel)
- Clozapine (Clozaril)
- Ziprasidone (Geodon)
- Aripiprazole (Abilify)

Side effects of Atypicals

- Sedation, orthostatic hypotension
- Weight gain
- Impaired glucose tolerance
- Metabolic syndrome—obesity, diabetes and hyperlipidemia
- Some extrapyramidal symptoms (EPS) less likely than the typical antipsychotics

Typical Antipsychotics

- Low potency--Thioridazine (Mellaril) and Chlorpromazine (Thorazine)
- Mid potency—Molindone (Moban) and Loxapine (Loxitane)
- High potency—Haloperidol (Haldol), Flupenazine (Prolixin), Trifluoperazine (Stelazine), Perphenazine (Trilafon) and Pimozide (Orap)

Side effects of typical antipsychotics

- Anticholinergic—blurred vision, mydriasis, confusion, constipation and urinary retention
- Antiadrenergic—orthostatic hypotension
- Antihistaminergic—sedation, dry mouth, increased appetite
- Weight gain
- Acute dystonia—contraction of muscles; laryngeal spasm—Rx with IV diphenhydramine, may need intubation

Side effects of typical antipsychotics

- Parkinsonism—rigidity and bradykinesia
- Tremor
- Akathesia
- Tardive dyskinesia
- Hormonal changes—increased prolactin leading to galactorrhea and decreased testosterone
- Agranulocytosis
- Seizures

Neuroleptic Malignant Syndrome

- Autonomic instability--diaphoresis, tachycardia, tachypnea, labile BP
- Hyperthermia
- Muscle rigidity
- Altered consciousness—confusion, mutism, delirium leading to coma
- Reported to have a mortality rate up to 20%

PSYCHOTIC DISORDERS

- Bipolar disorder and psychotic depression
- Schizophrenia and schizoaffective disorder
- Delusional disorder
- Brief psychotic disorder 1-30 days
- Psychotic disorder due to general medical condition
- Substance induced psychotic disorder—
drugs, medications, toxins