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Mental Health pharmacology

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Drug class: Mood stabilizer

- Drug:
    - Lithium (Lithobid)
- MOA: Unknown – alters ion transport
- Indication: Bipolar disorder
- Off label use: Depression
- Requires serum concentration monitoring
    - Therapeutic response at serum concentration of 0.4-1.2mEq/L
    - Toxic above 1.5 mEq/L (Some say toxic as low as 1.2 mEq/L)
- SE/AE: Adverse cardiac, renal, and CNS effects, nephrogenic DI, polyuria
- Black box warning: Monitor lithium levels for toxicity due to narrow therapeutic index
- Patient education:
    - Requires regular lab monitoring
    - Due to interfering with ADH, the patient must drink sufficient fluids

Drug class: Valproate

- Drug:
    - Valproic acid (Depakote)
- MOA: Prolong sodium channel inactivation and is also a GABA agonist
- Indications: Seizure disorder, migraines, bipolar disorder
- SE/AE: Nausea, bleeding risk
- Black box warning:
    - Hepatoxicity
    - Highly teratogenic – least preferred for females of childbearing age
    - Pancreatitis
- Cannot be given to children under two years old

Drug name: Lamotrigine (Lamictal)

- MOA: Prolong sodium channel inactivation, blocks specific calcium channels, and blocks glutamate
- Indications: Seizure disorder and bipolar disorder
- SE/AE: CNS effects
- One of the best options for use in pregnancy
- Black box warning: SJS/TEN
- Patient education:
    - Can decrease effectiveness of oral contraceptives

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Another option for bipolar disorder are the newer antipsychotics, carbamazepine,

Drug class: CNS stimulants

- Drugs:
    - Methylphenidate (Ritalin)
    - Amphetamine (Adderall)
    - Dextroamphetamine (Dexedrine)
- MOA: CNS stimulants. These drugs cause release of norepinephrine and dopamine
- Indications: ADHD and narcolepsy
- Black Box warning: Linked to abuse and dependency
- Controlled substance (Schedule II)
- SE/AE: Weight loss and insomnia
- First line treatment for ADHD

Drug name: Atomoxetine (Strattera)

- MOA: Blocks reuptake of norepinephrine, increasing its effects
- Indication: ADHD
- Less effective than CNS stimulants and therefore second line treatment
- Not a controlled substance

Drug name: Modafinil (Provigil)

- MOA: Not fully understood, increases dopamine in the brain
- Indications: Daytime fatigue related to narcolepsy, ADHD, OSA, and shift work sleep disorder
- Off-label use: Depression and fatigue from varies sources
- Controlled substance (Schedule IV)

Always educate on the non-pharm interventions for insomnia

All insomnia medications can cause drowsiness.

Drug class: Dual orexin receptor antagonist (DORA)

- Drugs:
    - Daridorexant (Quviviq)
    - Suvorexant (Belsomra)
- MOA: Blocks Orexin A and B which suppresses the wake drive
- Indication: Insomnia
- Not for long term use
- Controlled substance (Schedule IV)

Drug class: Histamine one receptor antagonist (Antihistamine)

- Drug:
    - Doxylamine (Unisom)
    - Hydroxyzine (Vistaril)
- MOA: Histamine one receptor antagonist, decreases histamine which results in sedation

- Indications: Insomnia, nausea in pregnancy, anxiety, allergies
- Doxylamine is available over the counter

Drug class: Benzodiazepine receptor agonist (BZRA)

- Drugs:
    - Zolpidem (Ambien)
    - Eszopiclone (Lunesta)
- MOA: Same as benzodiazepines
- Indication: Insomnia
- Should not be used for long-term management
- Controlled substance (Schedule IV)
- Black Box warning: Risk of abuse and dependency

Drug class: Melatonin receptor agonist

- Drug:
    - Ramelteon (Rozeram)
- MOA: Activates melatonin receptors which control circadian rhythm and sleep-wakefulness
- Indication: Insomnia
- Not a controlled substance
- Relatively safe for long term use

Drug class: Tricyclic antidepressants (TCA)

- Drugs:
    - Doxepin
- MOA: Histamine antagonist for insomnia, has other actions for depression
- Indications: Depression, insomnia

A complementary and alternative medication (CAM) used for insomnia is melatonin

Drug class: First generation antipsychotics (phenothiazine and non-phenothiazine)

- Drugs:
    - Chlorpromazine
    - Fluphenazine
    - Haloperidol
- MOA: Block dopamine 2 receptors
- Indication: Schizophrenia
- Off label use: Bipolar and nausea
- Haloperidol is also used for acute psychosis
- SE/AE: Drowsiness, anticholinergic effects, sexual dysfunction, and orthostatic hypotension
- Associated with extrapyramidal symptoms (EPS).
    - These include acute dystonia, parkinsonism, akathisia, and tardive dyskinesia
        - Some can be treated with benztropine
- Associated with Neuroleptic Malignant Syndrome (NMS)

    - Rare but potentially fatal reaction, presents with rigidity, high fever, dysrhythmias, AMS
        - Can be treated with dantrolene
- Effects more likely with high potency antipsychotics versus low potency antipsychotics
- Black Box warning: Not to be used for dementia related psychosis
- Antipsychotics have a high incidence of medication noncompliance

Drug class: Second generation antipsychotics (Atypical antipsychotics)

- Drugs:
    - Aripiprazole (Abilify)
    - Lurasidone (Latuda)
    - Olanzapine (Zyprexa)
    - Quetiapine (Seroquel)
    - Risperidone (Risperdal)
    - Ziprasidone (Geodon)
- MOA: Blocking dopamine 2 and serotonin receptors
- Indications: Bipolar disorder, depression and schizophrenia
- Off label use: Delusional disorder and OCD
- SE/AE: Metabolic effects (weight gain, DM, dyslipidemia) EPS and orthostatic hypotension
- Less likely versus first generation to have EPS
- Ziprasidone is also used for acute psychosis
- Black Box warning: Not to be used for dementia related psychosis
- Antipsychotics have a high incidence of medication noncompliance
- Full onset can be up to 8 weeks

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References

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