Side Effects of Psychiatric Medications and Serotonin Syndrome

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Research Validated Factors for Suicide Risk Assessment [1]

• Males (4X as likely to complete, but F 4X as likely to attempt)
• Age: Men >45, women >55
• White males (but in younger ages NA also have high suicide rate)
• Divorced, decease spouse, or never married
Suicide Risk Factors

• Chronic pain
• Poor Health/loss mobility/disfigurement
• Poor Social Support
• Doctors and Lawyers have high rates
• High social status (and a fall in social status)
Suicide Risk Factors

- Hx of mental illness or psych hospitalization for any reason
  - Schizophrenia
  - Mood disorders
  - Personality disorders
  - Anxiety disorders (social phobia and panic disorder)
- Hx impulsivity
- Substance abuse
Suicide Risk Factors

• Hx of a suicide attempt (especially in past 3 months)
• Fam Hx of suicide
• Hx of self-injurious behaviors (cutting)
• Access of Lethal Means
• Hopelessness, being a burden
Protective Factors

• Employed
• Religious Aversion to Suicide
• Removal of lethal means
• Good social support/Sense of responsibility to others
Medications to Reduce Suicide Risk, [2] [3]

• Lithium
• Clozaril
Lithium [4]

• Areas with higher natural Li in water supply have lower suicide rates [2]
• Wt gain
• Sedation
• Tremor
• Polyuria (nephrogenic DI)
Lithium [4]

• Hypothyroidism
• Acne/psoriasis/hair loss
• Seizures
Lithium Toxicity [1]

• Caused by dehydration, overdose, low salt intake
• Also NSAIDS, ACE inhibitors, thiazide diuretics, metronidazole
Lithium Toxicity [1]

- Vomiting, abd pain
- Ataxia, lethargy, AMS
- Clonus, fasiculations, hyper-reflexia
- coma
Treatment [1]

• d/c Li
• Aggressive Hydration
• Trend Li level, electrolytes and renal function
• Dialysis for Li >4 or serious clinical symptoms
Clozaril (Clozapine)

• Refractory schizophrenia
• Can decrease suicide risk in psychotic disorders
• LOTS of side effects
Clozaril (Clozapine) [4]

- Trend CBC weekly for 6 mo; then biweekly for 6 months, then monthly thereafter
- Agranulocystosis
Clozaril (Clozapine) [4]

• Anti H1: sedation
• Anti Alpha 1: dizziness/hypotension
• Anti M1: dry mouth, constipation, paralytic ileus
• Wt gain, DM, HLD
Clozaril (Clozapine)

• Seizures
• Myocarditis
Serotonin Syndrome [1]

• Potentially fatal

• History or recent med changes is key for distinguishing from other similar presentations
Serotonin Syndrome [1]

• Symptoms in order of appearance:
  • Diarrhea
  • Restlessness
  • Agitation/hyperreflexia/clonus
  • Autonomic instability (usually HTN and tachycardia)
Serotonin Syndrome [1]

• Diaphoresis
• Myoclonus/SZ/hyperthermia
• Delirium/coma/Status Epilepticus
Serotonin Syndrome [1]

• possibly
  • Leukocytosis
  • Rhabdo
  • hyponatremia
Serotonin Syndrome [1]

• Treatment:
  • Stop offending agents
  • Cooling
  • Cyproheptidine (serotonin receptor antagonist)
  • Benzos (for myoclonus or agitation)
  • Paralytic agents (fever in SS is muscular in origin)
  • IVF to support renal fxn
Serotonin Syndrome

• MAOIs and other serotonergics
• Tramadol
• DXM
• Triptans
• Lithium
• Selegiline
Trazodone [4]

- Priapism
- 1:8,000
- Can occur at any dose
- Intracavernosal epinephrine injection
Clinical Question 1

- Which antidepressant has a specific FDA warning for QTc prolongation and specific max dosing guidelines in patients over age 60?
  - A: Sertraline (Zoloft)
  - B: Bupropion (Wellbutrin)
  - C: Mirtazapine (Remeron)
  - D: Citalopram (Celexa)
  - E: Duloxetine (Cymbalta)
Citalopram (Celexa) [5]

• 2011FDA prescriber warnings for Citalopram for a max recommended dose of 40mg daily due to dose dependent risk of QTc prolongation and increased risk of fatal arrhythmia.

• “not recommended” for patients with a history of congenital long QT syndrome, bradycardia, hypomagnesemia, hypokalemia, recent MI and uncompensated heart failure.

• Max recommended dose of Citalopram in patients over age 60 (or with hepatic impairment) is 20mg daily.

• “Not recommended” in patients taking other QTc prolonging medications.
Clinical Question 2

A female patient of child bearing age has Bipolar Disorder. She is stable and regularly compliant with medications. She takes an oral contraceptive regularly but becomes pregnant anyway. Which psychiatric medication could explain this?

- A: Valproic Acid (Depakote)
- B: Carbamazepine (Tegretol)
- C: Lithium
- D: Lamotrigine (Lamictal)
- E: Oxcarbazepine (Trileptal)
Carbamazepine [1]

• Carbamazepine is a CYP 3A4 inducer.
• It can induce oral contraceptive metabolism leading to uncertain contraceptive efficacy.
• Autoinduce can itself and potentially its clinical effect could wane over time requiring higher dosing.
Neuroleptic Malignant Syndrome [6]

- Again med hx is important, recent antipsychotic changes/initiation
- More common with high potency older antipsychotics
- Can happen with newer atypical antipsychotics as well
Neuroleptic Malignant Syndrome [6]

• Hyperthermia
• Muscle rigidity ("lead pipe")
• AMS (mutism, stupor, agitation)
• Tachycardia
• HTN or hypotension
Neuroleptic Malignant Syndrome [6]

• Tachypnea/hypoxia
• Diaphoresis
• Sialorrhea
• Tremor
• Incontinence
• CPK elevations/myoglobinuria
Neuroleptic Malignant Syndrome [6]

- Leukocytosis
- Metabolic acidosis
- NI head imaging and CSF
NMS Treatment [6]

• d/c dopamine blocker (metoclopramide)
• IVF hydration
• Cooling
• Anticoagulation
• Antihypertensives/pressors depending on presentation
NMS Treatment [6]

• IV Ativan effective in 75% cases
  • Up to 20mg daily in divided doses
• If Ativan doesn’t work, emergent ECT
NMS Treatment [6]

• Less evidence for dantrolene or adding a dopamine agonist (amantadine, bromocriptine)
  • But evidence of decreasing mortality
• Levodopa/carbidopa
Lamictal (lamotrigine) [4]

- Na channel blocker used as mood stabilizer
- 1:10 develop benign rash
- Rare Stevens-Johnson Syndrome
Lamictal (lamotrigine) [4]
Lamictal (lamotrigine) [4]
Lamictal (lamotrigine) [4]

• Benign rash:
  • Spotty/non-confluent
  • Nontender
  • NI lab tests
  • No systemic effects
  • Can decrease dose, wait one week, then resume titration in slower increments
Lamictal (lamotrigine) [4]

• SJS:
  • Highest risk is first 6-8 week titration period
  • 1:3000 pts on lamictal
Lamictal (lamotrigine) [4]

- Confluent, widespread, rapidly progressing
- Itching
- Tenderness; appears red and swollen
- Prominent neck/upper trunk
- Eyes/lips/mouth/GU
- Non-blanching
Lamictal (lamotrigine) [4]

- SJS
  - Fever/flu like symptoms
  - Pharyngitis
  - Lymphadenopathy
  - Abnl CBC
  - Stop lamictal without a taper if any of aforementioned findings are present
Lamictal (lamotrigine) [4]

• Minimizing risk (also minimize chance benign rash)
  • Slow titration
    • 2mg daily for 2 weeks, then 50mg daily for 2 weeks, then 100mg daily for one week, then up to 200mg daily

• Stress importance of not missing doses and restarting at a high dose
Common Antipsychotic Side Effects [6]

• Acute Dystonia
• Younger patients, soon after initiation
  • Less risk with atypical antipsychotics
  • Tx: Cogentin (benztropine) or Trihexyphenidyl (artane)
    • Anticholinergics- decrease excess acetylcholine caused by dopamine blockade
    • Can also treat tremor and bradykinesia
  • Benadryl
Common Antipsychotic Side Effects [6]

• Akathisia
  • Tx with propranolol (10-20mg up to QID) or klonopin/valium
  • Propranolol can also treat tremor from Li
Common Antipsychotic Side Effects

• Parkinsonism
• Can Tx with Cogentin or Artane
• Can also use amantadine 100mg BID or TID
Tardive Dyskinesia

• Usually after 6 months of treatment
• Less risk with atypical antipsychotics but can still happen
• Elderly higher risk, especially women
  • So don’t over treat mild depression in elderly by adding abilify or rexulti
Tardive Dyskinesia

• Can be permanent
• AIMS scale for monitoring for TD movements
• TX Valbenazine (Ingrezza), Duetetrabenazine (Austedo)
References