Psych Polypharmacy .....YES!

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Objectives

- -Explore and understand the theory and benefits of using multiple agents in psychiatry
- -Gain understanding on neurochemicals and symptom sets
- -Review new psychotropic agents on the market
- -Explore non medication treatments in psychiatry

Background

- Until the 1980's very few medications were available to treat psychiatric illness
- Since 1980's there has been an explosion in medications and mechanisms to address psychiatric illness
- Psychiatry is just now getting to the level of management that HTN, DM etc. has been for decades
- Along with these advancements we have had to change the way we think about treating psychiatric disorders (treating just dx code doesn't get us where we want to be)

Neurochemicals

- Serotonin- sad, crying, whoa is me, empty, sinking, hollow, emotional side of depression-------- anxiety, internal tension from anxiety, some mind racing from anxiety
- Norepinephrine- energy, awakefullness, chronic pain
- Dopamine- motivation, drive, energy, executive functioning, pleasure, joy, positive thinking
- Gaba system- major brake for the brain
- Glutamenergic system- major gas pedal for the brain
- NMDA- specific receptor in the glutaminergic system that requires glutamate and d-serine or glycine to function
- Sigma 1- anti anxiety actions
- Many more

Why poly pharmacy

- Multiple mechanisms to psychiatric disease from neurochemical standpoint
- Neurochemicals can do what they do
- Lower dose lower side effects
- Synergy
- More precise targeting resulting in less collateral damage

Oldies but goodies

- SSRI's
- SNRI's
- Wellbutrin
- Mood stabilizers- Lamictal, Tegretol, Depakote, Lithium, Trileptal
- Antipsychotics- Haldol
- Atypical antipsychotics- Risperdal, Seroquel, Zyprexa, Geodon, Latuda, abilify,

New agents/Advancements

- Trintillix- SSRI plus multiple serotonin targets as well as 5HT1-a agonist
- Viibryd- SSRI plus 5HT1-a partial agonist
- Both huge advancements in ssri's and viibryd is now generic

New agents/ Advancements

- Vraylar- been out 8 years now
  - D2 and D3 partial agonist
  - 5HT1-a partial agonist
  - Approved across the whole mood spectrum now with new MDD indication
  - Different med different dose

New agents/ Advancements

- Spravato- esketamine intranasal spray
- Suicidal depression
- Rapid onset
- Very controlled treatment protocol
- NMDA receptor modulation
- Sigma 1 receptor
- Mechanism of action debated
- NMDA antagonism specifically at the open channel pcp site
- Also helps with downstream BDNF (brain derived neurotropic factor) and VEGF (vascular endothelial growth factor)

New agents/ Advancements

- Auvelity- dextromethorphan/buproprion 45/105
- Its all the cough syrup/ Wellbutrin along for the ride
- NMDA receptor antagonist like Ketamine
- Sigma-1
- Fast tract FDA approval, first antidepressant to get this
- Response week one
- Very well tolerated
- Also in trials for agitation in dementia and according to Stahl is very promising.

New agents/ Advancements

- Quviviq

- Potent Orexin blocker
- Half life about 8 hours
- 25 and 50 mg doses
- 50mg dose has additional benefit of improved alertness the following day regardless of the “perceived” sleep affect by patient.
- New mechanism, others in this class are belsomra, davigo
- Have to council pts on its sleep affect, does not sedate, need sleep hygiene.

New agents/ Advancements

- Inflammation hypothesis in brain
- Very early in research process
- Good evidence is coming out now about the role of oxidative stress and free radical stress on brain decreasing BDNF and VEGF
- Lots of research being done on possible agents to help boost above two compounds.
- Fish oil and Low dose lithium orotate are now being used to address this inflammation process in brain.
- Brain inflammation is thought to play a role in mood disorders, anxiety disorders, and ADHD.
- Current recs are fish oil 2400-3600 mg daily and lithium orotate 10-20 mg daily.

Non Pharma agents

- TMS- Transcranial magnetic stimulation
- Use of a magnet to induce a magnetic pulse to the left prefrontal Dorsal Lateral area of brain to affect the SGAC (subgenual anterior cingulate cortex)
- 10-30 min treatment 5 days a week for 6 weeks then 3 week taper
- Response rate (50% reduction in phq 9) 80%
- Remission rate (phq-9 less than 3-4) 50 %
- New protocols in the works
- SNT (saint protocol) just approved by fda.
- 5 day protocol of 10 extremely targeted TMS treatments guided by functional MRI imaging daily for 5 days produced a 90% remission rate at the end of 5 days.

Summary

- Poly pharmacy is a good thing and just means were learning more about how the disease process of mental health disorders
- Knowing how to pair agents by knowing what their specific actions are helps us get synergistic responses with less side effects.
- Supplementary research on global inflammation processes is early but promising
- TMS is become a very viable and accessible option for non pharma depression treatment
- New exciting agents coming out all the time