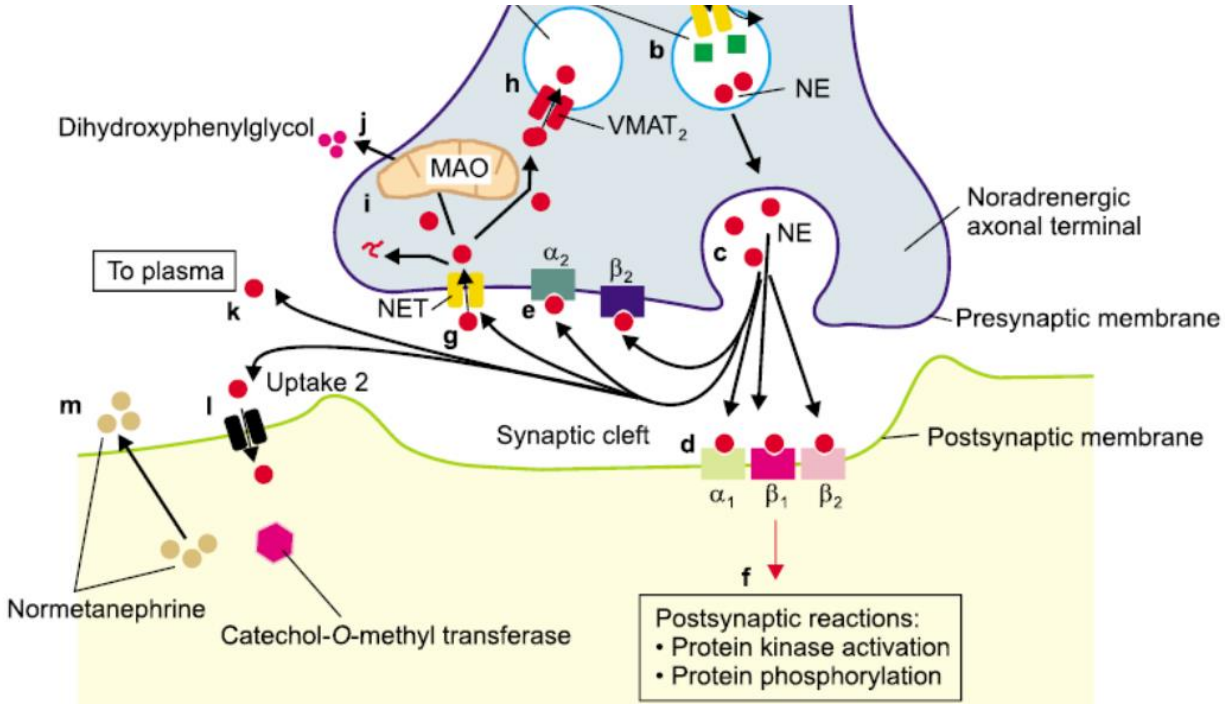
Viloxazine

Qelbree (Viloxazine Extended-Release capsules)

Qelbree (Viloxazine ER) is the new ADHD medicine you may or may not have heard of. Marketed as a "branded non-stimulant ADHD medicine," Qelbree is available to prescribe for adults and children.

Mechanism of Action

What exactly is Qelbree, or Viloxazine? Viloxazine is a Norepinephrine-Reuptake Inhibitor (NRI). To review some brief and simplified psychopharmacology:



Neurons release vesicles of neurotransmitters, like Norepinephrine (NE), Dopamine (DA), and Serotonin (5-HT) into the synapse. The neurotransmitters then either bind to the receptors on the post-synaptic neuron *or* get recycled by transporters on the pre-synaptic neuron. The "recyclers" on the pre-synaptic neurons include Norepinephrine (NET) for NE, Dopamine Transporter (DAT) for DA, and Serotonin Transporter (SERT) for 5-HT. By blocking NET, Viloxazine allows more NE to stay in the synapse and bind to receptors on the post-synaptic neuron more than it otherwise would without the NRI, essentially raising the availability of NE in the brain.

For reference, methylphenidates block NET and DAT, and amphetamines block NET/DAT *and* push out NE & DA vesicles. That means that stimulants have at least 2 ways to increase the availability of at least 2 neurotransmitters, while NRIs have only one way to increase availability of only one neurotransmitter, which is why stimulants are "stronger"

than Atomoxetine (another NRI) or Viloxazine. This is why we generally think of stimulants as 1st-line, alpha agonists (e.g. guanfacine, clonidine) as 2nd-line or adjunct, and NRIs as 3rd-line for ADHD.

Metabolism

Viloxazine is metabolized by CYP2D6 (minor), UGT1A9, and UGT2B15.

Viloxazine is a strong inhibitor of CYP1A2 and a weak inhibitor of both CYP2D6 and CYP3A4.

Blackbox Warning

Similar to SSRIs, Viloxazine also has a black-box warning for suicidal ideation (SI), but it is not limited to pediatric populations. Of 1019 pediatric patients treated at doses of 100-400 mg in short-term trials, 9 (0.9%) experienced SI, suicidal behaviors, or both, while only 2 patients (0.4%) of the placebo arm reported SI only. There were no completed suicides. For adults, 3 of 189 patients (1.6%) treated with Qelbree reported SI while 0 of 183 patients on placebo did. There were no suicidal behaviors or completed suicides for adults.

While it's important to always counsel your patients and families on the black-box warning, it's important to note the small sample size of the statistics for adults and that these were only short-term trials and not indicative of long-term outcomes.

Summary

Qelbree (Viloxazine ER) is a new Norepinephrine Reuptake Inhibitor (NRI), like Atomoxetine, which is an alternative to stimulants and alpha agonists for ADHD, but is not as strong as any stimulant and should be saved as a 3rd-line option.

It has a black-box warning for all ages about increased suicidal thoughts.

Sources:

1. Qelbree website for patients: https://www.qelbree.com/?utm_source=google&utm_medium=cpc&utm_campaign=2022+Brand+Qelbree+(Acquisition)%3BS%3BPH%3BBR%3BPSY%3BDTC%3BBR&utm_content=Brand+Qelbree_Core_Exact&utm_term=qelbree&omcc={omcc}&ads_rl=7829292602&ads_rl=7938721245&&&ads_rl=7829292602&gclsrc=aw.ds&&gclid=EAIaIQobChMIxsq3uKzvhQMVNTnUAR1ERwTMEAAYAiAAEgLr9fD_BwE
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