January 2016
Issue 12

RPCC Pharmacy Forum

Special Interest Articles:

- Chewable Quillichew ER
- Banzel and Onfi
- Lithium Review

Did you know?

Over 40% of medications filled each year go unused. U.S. households accumulate an estimated 200 million pounds of unused pharmaceuticals every year.

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Chewable Methylphenidate- Quillichew ER

By Matthew Welch, PharmD Candidate

The FDA approved Quillichew ER (methylphenidate)in early December for children 6 and over. Pharmacies will begin to see this medication in the first quarter of 2016. Quillichew ER will provide a great option in patient populations that are unable to swallow pills or capsules. It is available in 20, 30 and 40mg chewable tablets and is marketed as once daily. QuilliChew ER contains approximately 30% immediate release and 70% extended release methylphenidate. Following a single oral dose of 40 mg QuilliChew ER under fasting conditions, plasma methylphenidate reached maximal concentration (C_{max}) at a median time of 5 hours after dosing. The tablet is described as colored and speckled, which may be inviting to children and pose similar risks as other attractive pills, such as gummy vitamins.

Banzel and Onfi- Adjunctive Treatment in Lennox-Gastaut Syndrome

By Jackie Morlan, PharmD Candidate

Banzel and Onfi are two new seizure medications. They both are FDA-approved to treat Lennox-Gastaut Syndrome as adjunctive treatment. Lennox-Gastaut Syndrome is a combination of seizures which can include the following types: tonic (stiffening of the body, upward deviation of the eyes, dilation of the pupils, and altered respiratory pattern), atonic (brief loss of muscle tone and consciousness, causing abrupt falls), atypical absence (staring spells), and myoclonic (sudden muscle jerks). This syndrome usually begins before the age of 4. It usually occurs as frequent seizures with brief seizure free periods. Studies have shown that children can experience some degree of impaired intellectual function or information processing, along with developmental delays, and behavioral disturbances.

Banzel's generic name is rufinamide. The mechanism of action is unknown. In vitro studies show it may be due to the ability to prolong the inactive state of the

Onfi, Banzel continued:

sodium channel. Pediatric dose (1 year old to 16 years) is usually initiated at 10 mg/kg/day by mouth in two divided doses with food. The common adverse effects are somnolence, nausea, vomiting, headache, fatigue and dizziness. Other effects which may be seen include decreased appetite, rash, pruritus, ataxia, diplopia, blurred vision, abdominal pain, shortening of QT interval, and suicidal thinking or behavior. Monitoring parameters include ECG, mental status, fluid, and electrolytes.

Onfi (clobazam) is believed to bind to the same site as benzodiazepines (GABA-A receptor) and potentiate neurotransmission. If the patient weighs 30 kg or less the initial dose is 5 mg by mouth daily in two divided doses. The common adverse effects are constipation, drooling, ataxia, dysarthria, insomnia, lethargy, sedation, somnolence, aggressive behavior, cough, and fever. Serious adverse effects which may occur are Stevens-Johnson syndrome and Toxic epidermal necrolysis. Monitor for CNS, respiratory depression, hypotension, hypothermia and rhabdomyolysis.

Tresiba- New Ultra Long-Acting Insulin

Tresiba (treh-SEE-bah, insulin degludec) is a new once-daily ULTRA long-acting insulin. It lasts about 42 hours compared to about 24 hours for Lantus *or* Levemir and a little over 24 hours for Toujeo. Novo Nordisk, the company that makes it, emphasizes two main selling points of Tresiba – that it is very long lasting and that it offers greater flexibility in dosing time. Tresiba U-200 FlexTouch can deliver a single dose of up to 160 units, and lasts up to 8 weeks without refrigeration once in use.

According to trial data gathered for the approval process, the insulin had a half life of 25 hours making it the longest-lasting basal insulin available. In an overdose situation, long-acting insulin will require close monitoring for a longer length of time.

Spiriva Now Available in Non-Capsule Form

Spiriva Respimat (tiotropium) will be the first long-acting anticholinergic for asthma. Adding Spiriva to a medium-dose inhaled steroid may improve lung function about the same as adding a long-acting beta-agonist (salmeterol, etc). Spiriva Respimat provides a pre-measured amount of medicine in a slow-moving mist that helps patients inhale the medicine. Spiriva Respimat was developed to actively deliver medication in a way that does not depend on how fast air is breathed in from the inhaler.

Lithium- Review of Therapy and Toxicity

By Jill Tucker, PharmD Candidate

"Adding Spiriva to a medium-dose inhaled steroid may improve lung function about the same as adding a long-acting beta-agonist (salmeterol, etc)."

Lithium has been used medicinally since 1870, until banned by the FDA in 1940 due to fatalities. The ban was lifted in 1970 and is now currently used to treat both the manic phase and depressive phase of bipolar disorder. It can also be used as an adjunct with other medications for depression refractory to antidepressants. Lithium is a very effective anti-manic; however, it has a very narrow therapeutic index. This means the level required for a therapeutic effect is in close range to the level that can result in toxicity. The desired serum range is 0.6-1.2mEq/L and can vary depending on what you are specifically treating. The therapeutic dose is around 300-1800 mg/day.

Most patients (75%) on lithium experience some side effects, but usually they are minor and may include: weight gain, sedation, polyuria, and a fine tremor. These effects can usually be eliminated or decreased by changing the dose or dosing schedule. Serious side effects can occur at toxic levels and include: angioedema, renal interstitial fibrosis, bradyarrhythmias, sinus node dysfunction, erythema multiforme, ataxia, seizures, and coma. A severe tremor can be seen with toxicity and needs to be distinguished from the fine tremor that can be associated with lithium at therapeutic levels.

Lithium poisoning occurs frequently, primarily because it is used in a high risk population for overdose. Lithium levels need to be monitored 5 days after initial dosage and/or dosage changes to allow the drug time to reach steady state. Also of note, lithium is cleared via the kidneys, so factors such as decreased renal function, dehydration, and electrolyte abnormalities can result in toxic levels due to decreased clearance. For this reason, elderly patients may need to be monitored more closely for lithium toxicity.