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The Society further encourages high standards of conduct and character and fosters fellowship among its members.

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RHO Rx CHI post

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Sang, Guang, Bianca, Rafi, Karen, and Ajla (from left to right), pictured with Dr. Zito

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RHO CHI POST: TEAM MEMBERS

@ Davidta Brown

6th Year, STJ; Editor-in-Chief

My two great loves are innovative science and quality writing; the Rho Chi Post is an insightful combination of both. As an editor, I look forward to bringing relevant information and fresh perspectives to the student and faculty of St. John's University, as well as to making the Rho Chi Post a newsletter that offers something new to every reader.

@ Bharat Kirthivasan, PhD

Graduate Copy Editor [Content-Focused]

I received my doctorate in Industrial Pharmacy researching nanoparticles for delivery to the brain. The only thing I enjoy more than reading a well-written piece of work is writing it. I am glad to work for the Rho Chi Post, and I encourage others to do the same.

@ Tamara Yunusova

6th Year, STJ; Copy Editor [Content-Focused]

I enjoy articulating information in a captivating and insightful way. I hope to make this publication more informative, student-friendly, and innovative.

@ Jack (Hongkai) Bao

5th Year, STJ; Staff Editor

In my 3rd year of pharmacy school, I was introduced to the Rho Chi Post, an award-winning newsletter run by students. My involvement began by simply reading monthly articles, but as time passed, my passion for writing grew. Coupled with my interest in pharmacy, I made the initiative to apply for a position. Now, as a team member, I believe that the Post is a great way for students and faculty to stay up to date concerning pharmacy news.

@ Sang Hyo Kim

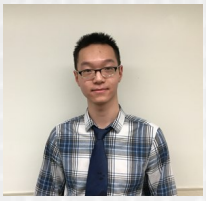
5th Year, STJ; Section Editor: Puzzles

Advancing technology and medicine, as well as prolonging the lifespan and improving quality of life, have increased the geriatric population. Pharmaceutical industries and healthcare systems persistently work to find solutions to changing demands and new problems of the society. I wish to learn, educate, and prepare myself and others for the future.

@ Nicollette Pacheco

6th Year, STJ; Staff Editor [Graphics-Focused]

As a new member of the Rho Chi Post team, I have a vast appreciation of what it means to be a future pharmacist in the rapidly evolving world of healthcare. I am looking forward to being on the team as a graphics-focused staff editor, and I hope to bring my passion for science and creativity to the Rho Chi Post.



@ Alex Chu

4th Year, STJ; Staff Writer

With a constantly evolving healthcare field, it is imperative that we keep ourselves up to date with the latest news. This is what led me to join the Rho Chi Post, which constantly comes out with interesting and informative topics. It is an honor to write for the Rho Chi Post, and I wish to contribute innovative and intriguing articles to this newsletter.

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QUOTE OF THE MONTH

By: Nicollette Pacheco, Staff Editor [Graphics-focused]

"Wherever the art of Medicine is loved, there is also a love of Humanity."

Hippocrates

Brexpiprazole: A Novel Antipsychotic for Major Depressive Disorder and Schizophrenia

By: Nicollette Pacheco, Staff Editor [Graphics-focused]

Brexpiprazole (REXULTI®) is a novel atypical antipsychotic that was approved in July 2015 for the adjunctive treatment of Major Depressive Disorder (MDD) and as monotherapy in schizophrenia.[1] Brexpiprazole is a serotonin-dopamine activity modulator with partial agonism at serotonergic 5HT1α and dopaminergic D2 receptors, as well as potent antagonism at 5HT2α and noradrenergic α1B and α2C receptors. D2 receptor action demonstrates lower intrinsic activity than aripiprazole, suggesting fewer adverse effects (such as akathisia). Decreased affinity for histaminic H1 receptors also suggests decreased sedation compared with other antipsychotics. The advantageous pharmacologic profile of brexpiprazole makes it a viable option in patients with schizophrenia or MDD.[3]

The dosing of brexpiprazole for MDD is 0.5 to 1 mg daily by mouth (initially), and it is titrated weekly to a maximum daily dose of 3 mg. In schizophrenia, brexpiprazole is initiated at 1 mg daily and titrated every 3 to 4 days to a maximum daily dose of 4 mg. Dose adjustments are required in patients who are poor CYP2D6 metabolizers, taking CYP3A4 inducers or inhibitors, have a creatinine clearance below 60 mL/min, or have moderate to severe hepatic impairment (Child-Pugh class B or C). FDA Boxed Warnings caution the use of brexpiprazole in elderly patients with dementia-related psychosis (due to increased mortality) and in patients aged 24 years and younger (due to suicidal thoughts and behaviors).[2]

Brexpiprazole in Schizophrenia

Schizophrenia is a severely debilitating, lifelong illness that compromises a person's thinking, perception, emotion, and behavior. While early signs of schizophrenia may be difficult to differentiate from other psychological illnesses, early recognition and treatment is key because a delay in treatment may alter long-term outcomes and the patient's ability to achieve remission. Pharmacologic, psychosocial, and rehabilitative treatments are often needed to reduce the risk of symptomatic exacerbations and hospitalizations.[4]

In a phase III clinical trial, patients diagnosed with schizophrenia who were experiencing an acute exacerbation were randomized to daily doses of brexpiprazole 0.25 mg, 2 mg, 4 mg, or placebo, and they were followed for 6 weeks. The Change in Positive and Negative Syndrome Scale (PANSS) was used to measure the primary endpoint of disease severity (by screening for both the positive and negative symptoms associated with schizophrenia). The secondary endpoint was measured by the Clinical Global Impressions (CGI) Scale, which indicated improvement in disease severity. After 6 weeks of treatment, patients who received daily doses of brexpiprazole 2 mg and 4 mg demonstrated a statistically significant reduction in the PANSS compared to the placebo group (treatment differences: -8.72 and -7.64; $p<0.0001$ and $p=0.0006$, respectively). The CGI scale also revealed statistically significant improvements in disease severity when compared to the placebo group (treatment differences: -0.33 and -0.38; $p=0.0056$ and $p=0.0012$, respectively). Moderate weight gain was observed among patients in the brexpiprazole groups (1.45 kg for the 2 mg daily group; 1.28 kg for the 4 mg daily group; 0.42 kg for the placebo group), while no clinically significant changes in lipid or glucose levels were noted.[5]

Brexpiprazole in Major Depressive Disorder

MDD is a chronic illness with heavy physical, social, and financial burdens. It commonly occurs in a person's late 20s, and it can manifest as a single episode or several recurrent episodes. The risk of recurrence increases after each episode, warranting careful therapeutic management in patients who have not achieved an adequate response with previous antidepressant treatments. Patients who achieve a therapeutic response exhibit a ≥50% decline in various depression severity rating scales. Treatment usually involves psychotherapy, medications, and lifestyle adjustments.[6]

In a Phase III trial, patients who did not experience an adequate response to previous antidepressant treatments were followed for 8 weeks of open-label antidepressant treatment and then randomized to daily doses of brexpiprazole 3 mg, 1 mg, or placebo for 6 weeks. The primary endpoint was the change in the Montgomery-Asberg Depression Rating Scale (MADRS) total score from baseline to week 6. This scale measured the severity of depressive episodes in patients with mood disorders. Secondary endpoints measured improvements in family,

social, and work life. Safety endpoints were extrapyramidal symptom (EPS)-related adverse events, such as hyperkinesia, akinesia, dystonia, akathisia, and tremor. The Simpson-Angus Scale, Abnormal Involuntary Movement Scale, and Barnes Akathisia Rating Scale were used to measure the severity of these symptoms. Vital signs, clinical laboratory tests, electrocardiograms, suicidal behaviors / ideations, and sexual function were additional safety endpoints in the study.

Adjunctive brexpiprazole 3 mg daily demonstrated improvements in MADRS scores compared to antidepressant monotherapy in patients who had inadequate responses to initial MDD therapy (n=203; -8.29 vs -6.33; p=0.0079). Patients receiving brexpiprazole 1 mg daily experienced moderate improvements in MADRS scores compared to patients on monotherapy, but the outcome was not statistically significant (n=211; -7.64 vs -6.33; p=0.0737). Secondary endpoints reinforced the primary outcome, demonstrating improvements in family and social lives. Brexpiprazole 1 mg and 3 mg daily doses also achieved statistical significance in their secondary endpoints. Frequently reported, treatment-emergent adverse events in the 1 mg daily group included headache (9.3%), nasopharyngitis (6.6%), and weight gain (6.6%). In the 3 mg daily group, akathisia (13.5%), headache (6.1%), somnolence (5.7%), weight gain (5.7%), and tremor (5.2%) were reported. All events were considered mild to moderate in severity. Weight gain of 1.4 kg and 1.57 kg were seen for the 1 mg daily and 3 mg daily groups, respectively, compared to 0.24 kg in the placebo group. Small increases in prolactin levels were seen in both brexpiprazole groups. No changes in vital signs or electrocardiograms were noted.[3]

Although not seen in clinical trials of brexpiprazole, cerebrovascular adverse events and neuroleptic malignant syndrome (NMS) have been observed in patients who take antipsychotics and antidepressants (with similar pharmacologic activity). For this reason, brexpiprazole is not recommended in elderly patients with dementia or in patients with symptoms of NMS. Metabolic changes, blood dyscrasias, orthostatic hypotension, body temperature dysregulation, and dysphagia have all been associated with antipsychotic use, and providers should monitor for these adverse events in patients who take brexpiprazole.[2]

Overall, many patients suffering from MDD do not respond to first-line therapies (such as selective serotonin reuptake inhibitors, serotonin and norepinephrine reuptake inhibitors, and the norepinephrine-dopamine reuptake inhibitors). These patients are managed by changing the initial antidepressant or by adding a second-generation antipsychotic (such as aripiprazole or quetiapine). While these therapies have demonstrated efficacy in MDD and schizophrenia, tolerability limits their use in some patients. For example, aripiprazole is known to cause akathisia and quetiapine is notorious for its excessive sedation.[3] Brexpiprazole is considered to be a relatively safe / efficacious option for patients with schizophrenia or patients who have an inadequate response to other MDD treatments.

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The Eye KAMRA, A Novel Treatment for Farsightedness

By: Sal Monaco, PharmD Candidate 2018

We have all witnessed someone attempt to read a piece of paper or an electronic device by holding it with their outstretched arm, while simultaneously craning their neck backwards to see it better. Such people are actually most likely suffering from a condition called presbyopia, commonly known as farsightedness. Farsightedness occurs as a person ages and the lens of their eye loses its ability to change shape and focus on near objects. In order to improve their vision, people will usually either wear reading glasses or prescription contacts. However, whenever those suffering from presbyopia accidentally leave their vision aids at home, they struggle to see.

The FDA recently approved a new treatment option for presbyopia called KAMRA. The KAMRA is an opaque, ring shaped device, which is implanted into the cornea of patients through the use of laser eye surgery. Similar to a camera's aperture (hence the name KAMRA), the device works by blocking unfocused peripheral light rays while allowing focused central light rays to enter the eye, thus improving the eye's ability to focus on near objects and text.1 Having the KAMRA implanted into only one eye improves near vision in that eye, while maintaining the distance vision of both eyes.1 The KAMRA is not intended for all people suffering from presbyopia, however. There are several criteria patients must meet before they can become candidates for the surgery. The criteria include being between the ages of 45-60, being diagnosed with presbyopia, never having undergone cataract surgery, and using reading glasses between +1.00 to +2.50 diopters of power.1 In an FDA review consisting of 478 patients, 83.5% of those patients attained near vision of 20/40 or greater within 12 months, without the use of reading glasses or contact lenses.1

As with most procedures, KAMRA carries the possibility of some adverse effects along with its therapeutic effects. The side effects experienced by patients are usually minimal. However, when side effects do occur, they can include problems with night vision, glare, double vision, dryness, and burning.2 Other less common, but more serious, side effects can include infection and thinning or swelling of the cornea.2 If a patient is experiencing side effects, or is unhappy with KAMRA for any reason, the implant can be removed. After removal, the patient's vision normally will return to the same level it was before the procedure.2 However, it is possible for the eye to sustain permanent damage and for vision to return to a level lower than pre-procedure levels. According to Dr. Philip Hoopes, Jr., if a patient decides to undergo the KAMRA procedure, it will cost them anywhere from $3,500 to $6,000.3 While the price tag may initially seem steep, it is a small price to pay to receive years of greatly improved quality of life. Overall, for those who meet the qualifications and accept the risks, KAMRA can be an effective and permanent method of treating farsightedness.

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New Metformin Labeling Change Mandated by the FDA

By: Jack (Hongkai) Bao, PharmD Candidate 2018

Metformin is an oral anti-hyperglycemic agent of the biguanide class and is FDA-indicated to treat type 2 diabetes or non-insulin-dependent diabetes mellitus (NIDDM).[1] Metformin works by decreasing hepatic glucose production and simultaneously increasing peripheral tissue sensitivity to insulin. Unlike other oral anti-hyperglycemic agents such as the sulfonylureas, metformin does not stimulate insulin production in the body.[1] Additionally, metformin does not cause weight gain or hypoglycemia as side effects.[1] Because of these advantages, metformin has been the standard for monotherapy or combination therapy for type 2 diabetes.

Elimination of metformin from the body occurs mainly through the kidneys with approximately 40% to 60% of the drug being recovered unchanged in the urine.[2] Because of this, metformin's elimination half-life has a strong correlation to creatinine clearance and kidney function. In a patient with normal kidney function (as represented by a high creatinine clearance), metformin will have a short elimination half-life and will be removed from the body rapidly. Generally, it is beneficial for the patient when a drug acts quickly and is eliminated quickly. On the other hand, a patient with poor kidney function (low creatinine clearance) will observe a longer elimination half-life and higher than normal metformin levels in the body. Not surprisingly, the development of lactic acidosis, a serious adverse effect that results from metformin accumulation in the body, is especially prevalent when metformin is used in patients with renal dysfunction.[1] Metformin is able to accumulate to toxic levels in the body when the kidneys fail to eliminate it. For this reason, the FDA advises extreme caution when using metformin in elderly patients, as they are more likely to have impaired renal function.[1]

Based on past FDA recommendations, contraindications in metformin use were solely based on serum creatinine levels, which measure the amount of creatinine in the body.[2] Creatinine is the byproduct of muscle breakdown which can vary depending on a patient's muscle mass.

> The past recommendations limited the use of metformin in males with a serum creatinine level of ≥1.5 mg/dL and females with a level of ≥1.4 mg/dL.

However, only focusing on serum creatinine levels does not accurately measure a patient's renal function. Renal function is an accumulation of different factors such as age, gender, race, and weight. Merely selecting one parameter, serum creatinine, as a basis for metformin eligibility led to physicians not accurately prescribing metformin. Certain patients may have been denied metformin simply because they did not meet the serum creatinine cut-off when their renal function was adequate. Conversely, other patients may have been inaccurately prescribed metformin even though their kidney function was poor. These recommendations by the FDA were strict and limited the use of metformin to a handful of patients and neglected those who would likely benefit from it.

This was changed in April 2016 when the FDA issued a statement requiring manufacturers to revise their labeling. It was changed to a parameter that provided a more accurate estimate of a renal function: eGFR or estimated glomerular filtration rate based on the *Modification of Diet in Renal Disease-4* (MDRD-4) equation.[3] The reason for this change is that eGFR takes into account a patient's serum creatinine but also their age, race, gender and/or weight. These other factors can all influence a patient's renal function and factoring them into eGFR provides a more accurate determination of how well their kidneys are working.

> The MDRD-4 equation is expressed as:
> $GFR = 175 \times (SCr)^{-1.154} \times (age)^{-0.203} \times (0.742 \text{ if female}) \times (1.210 \text{ if African American})$

Utilizing the MDRD-4 equation to calculate eGFR is

crucial because it takes into account body surface area. As mentioned previously, creatinine is a byproduct of muscle breakdown and those with less muscle mass will expectedly have a lower serum creatinine level. On the other hand, patients with more muscle mass will be expected to have a high level. By adjusting eGFR for body surface area, we can more accurately estimate renal function and metformin eligibility.

Currently, metformin is contraindicated in patients with an eGFR below 30 mL/min/1.73 m^2. Additionally, metformin should not be initiated in patients with an eGFR between 30 mL/min/1.73 m^2 and 45 mL/min/1.73 m^2.
In the event that metformin is onboard already, if a patient's eGFR falls below 45 mL/min/1.73 m^2, the benefits and risks of metformin should be weighed to determine continuation of treatment. Also, if a patient's eGFR falls below 30 mL/min/1.73 m^2, metformin should be discontinued.

With this labeling change, we can hope that more patients will receive the benefits of metformin use. The critical aspect of this change is, as mentioned before, using a more accurate estimate of renal function: eGFR. Now, physicians will be able to prescribe metformin on a much more appropriate basis. In the past, physicians may have prescribed patients metformin on the basis that their serum creatinine levels met the criteria but in reality, their actual renal function did not. Likewise, it is possible that patients have been denied metformin by being under the serum creatinine cut-off yet their kidneys were functioning properly.

Now physicians can more accurately gauge if a patient is eligible for metformin. With these changes, we can hope to see fewer side effects from patients. This is especially important in this patient population as many are elderly and have poor renal function. Being careful when deciding to initiate or discontinue metformin therapy is crucial in promoting safety and efficacy.

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Medication Delivery: There's an App for That

By: Caitlyn Cummings, Pharm.D. and Maria Marzella Mantione, Pharm.D., CGP, FAPhA

From ordering food to requesting transportation, we trust app-based delivery services for everything, so it makes sense that medication delivery through an app would be next. Zipdrug is a new medication delivery service based in New York City which will pick-up and deliver prescriptions from a desired pharmacy in Manhattan as well as in parts of Brooklyn and Queens. But what does this mean for pharmacists? And how can we trust a service with something as sensitive as a patient's medications? As health care professionals, we need to adapt to the ever-changing world of medicine, but not without addressing important concerns first.

Although Zipdrug has no affiliation with any pharmacy, they have recently partnered with CityMD Urgent Care in Manhattan. Kiosks will begin to be available at these urgent care centers so that patients will be spared a trip to the pharmacy.[1] The "one-stop shopping" idea will especially be enticing to sick patients or parents with children who are unable to wait at the pharmacy.

Patients do not have to use CityMD to use Zipdrug's delivery service. Through the Zipdrug app, over the phone, or online, patients supply their information including: name, address, telephone number, email address, pharmacy name and address, a picture of their insurance card, and credit card information. Patients can make a request to Zipdrug after requesting a refill at their pharmacy or after their provider sends an electronic prescription to the pharmacy of their choice. However, the service does not apply to prescriptions for controlled substances. The first delivery is free and the cost thereafter is $10 for the delivery service plus the cost of the medication(s).[1,2]

News outlets are claiming that Zipdrug will provide "greater medication adherence."[2] Although it is too soon to tell, this company definitely has the potential to help with primary nonadherence, which is when a new prescription is never picked up. An *Annals of Internal Medicine* study conducted in 2011 found that nearly **one-third** of all prescriptions written remain unfilled. However, the rationale for patients not filling their prescriptions could not be quantified.[3] The reasons for medication nonadherence are multifaceted and are specific for each patient. Zipdrug advertises that they will improve medication adherence by doing the work for the patient and getting the medications into their hands.

Not all pharmacies can offer delivery services especially in large cities, and as health care professionals, we cannot deny that this service is often needed for patients for various reasons. Because medication nonadherence is such a problem in the U.S., costing upwards of $100 billion each year, the benefits that Zipdrug can offer should not be immediately dismissed.[4] Having a third-party provide a delivery service may, in fact, improve primary medication adherence for many patients. From the pharmacist's perspective however, the service raises some questions.

What challenges does Zipdrug pose for pharmacists?

1) Trusting the Zipdrug messenger
2) Counseling the patient effectively
3) Confusion for the patient or pharmacist
4) Zipdrug's advertising (i.e., all pharmacies have long wait times)

1) Trusting the Zipdrug messenger: Under HIPAA, it is acceptable for the pharmacist to dispense the medication to the messenger since they are authorized to do so by the patient. The patient (or a third party authorized by the patient) voluntarily submits personal information to Zipdrug. What is comforting for pharmacists and patients to know is that all the messengers are HIPAA-trained, drug-screened, background-checked, and have passed a test before starting.[1] Through the app, patients can track the delivery in real-time, much like Domino's® or Uber®, and must sign for their medication upon arrival.[1] As with any delivery service, it is unlikely for the patient to know the deliveryman personally and therefore, a certain amount of trust must go into using Zipdrug. In this way, having them deliver a patient's prescriptions shouldn't be too much different than having a pharmacy delivery person send them.

2) Counseling the patient effectively: A pharmacist may not know that a Zipdrug representative is picking up the prescription on the patient's behalf. This makes a proper plan for counseling the patient difficult. Does the Zipdrug driver have the authority to deny counseling on the patient's behalf? Or will the pharmacist go out of their way to call and counsel the patient if it is a new medication? Zipdrug acknowledges that their messengers are not health care professionals and that any questions that the patient may have should be directed to their pharmacist.[1]

3) Confusion for the patient or pharmacist: Confusion can come about when the medication is not in stock, not on the patient's formulary, or is different from what the patient expected. The patient may also have a higher than expected copayment or may end up wasting money on Zipdrug without receiving the medication (for example, if the medication needs a prior authorization). If the pharmacist does not inform the patient before Zipdrug delivers the medication to the patient's home, confusion and frustration can be compounded. In addition, once the prescription leaves the pharmacy, the pharmacist cannot take it back. Therefore, effective communication between the pharmacist and patient is the key to handling these problems directly or avoiding them altogether.

4) Zipdrug's advertising: The phrase "Stop wasting time waiting at the pharmacy" can be found on the homepage of Zipdrug.[1] People wait for their food to be cooked at restaurants, for the oil in the car to be changed, to see their doctors, etc., so why is waiting in a pharmacy portrayed as a waste of time? In fact, pharmacy wait times are more of a **safety issue** rather than an inconvenience. Pharmacists have the responsibility to ensure that the patient is receiving the correct medication at the correct dose and schedule and in doing so, they sometimes have to call the doctor to make a recommendation or change the medication based on the patient's insurance coverage. Additionally, they have to check for allergies or drug interactions, prepare the medication, as well as be available to counsel and answer questions from other patients. All of these things need to be factored into **why** the patient is waiting. Also, when the prescriber electronically submits the prescription, it does not automatically appear in the pharmacy's computer system as it first goes through a transaction hub.

Another term that Zipdrug uses to advertise is "hours wasted at the pharmacy everyday," wherein Zipdrug claims to be 8,219,178 hours.[1] This is a very bold claim, possibly even inflated, especially due to the fact that there is no source to back it up. Again, the concept of wasting time at a pharmacy is demeaning to the profession as rapport with the pharmacist could potentially save patients lives. If the company wants support from pharmacies, the company should be making valuable connections with pharmacies and not be putting them in a bad light.

As this new third party is introduced into the equation of patient care, it is important as health care professionals to determine what challenges this brings up for us and our patients as well as how we are going to respond. Sure we can simply dismiss this company, or we can see its value for our patients. Zipdrug is definitely going to be an enticing service for many individuals and it is up to us to decide how we are going to adapt to this new entity involved in patient care.

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Risk of Using Mislabeled and Unregulated Cannabidiol Products for Pain Management

By: Zachary Piracha, Pharm.D Candidate 2017

The following account is a case report I was involved with during my rotation at the FDA. On 06/21/16, the Consumer Complaint Coordinator division of the Food and Drug Administration (FDA) received a report from a consumer that had discovered an online seller of dietary supplements, and purchased the product CannazAll. CannazAll is a hemp cannabidiol (CBD) tincture, 250 mg per bottle, which is used widely for its claims of relieving pain with minimal side effects. The labeling on CannazAll states that it contains negligible levels of THC, the main psychoactive compound found in marijuana. The consumer was taking the tincture daily, and stated that one bottle would last for approximately one month. His dose was 2-3 drops of the liquid orally, 2-3 times a day, and he had been taking the product at this dose for approximately 6 months. The consumer was taking this product because of his chronic back pain, for which he had taken hydrocodone. The opioid medication would blunt his pain, but also give uncomfortable adverse effects such as GI disturbances and day time drowsiness. The consumer claimed the tincture relieved his pain and made him comfortable enough to carry out his activities of daily living. There was no mention whether or not the consumer was taking the tincture concomitantly with the prescription medication.

In April 2016, he had been referred to a back specialist, who prior to treating any patient, required a complete blood and urine panel to check routine lab values, and a drug screen. The consumer submitted to the doctor's requirements, submitted a blood and urine sample, and disclosed his prescribed opioid pain medications to the doctor.

When he met with the doctor to discuss his analysis, he was shocked to learn that his blood panel showed that he had 83 ng/ml of THC within his blood. According to the complainant, the standard cut off is 50 ng/ml, and as the doctor explained to him, the patient's level of THC allowed him to meet criteria to be classified as a "drug addict". This meant that the doctor could not prescribe any medications to him for pain because of the possibility that he would continue his "addict" habits. This was a very troublesome time for the consumer, who had stopped talking the CannazAll and was unable to receive the supplemental pain medication he needed. The doctor had to refer him to a pain management treatment center for drug addicts to receive further treatment.

The consumer stated that he did not smoke or ingest marijuana, nor did he use other hemp product, and he had not been around other people smoking it or using it. He was very shocked to find out that the CannazAll would contain such high levels of THC, since according to his doctor, his levels showed that he was a very active cannabis user. The patient exclaimed that if he would have gotten into a car accident and was screened for drugs he would have been charged with driving under the influence.

CBD products are not considered dietary supplements as per section 201(ff)(3)(B)(ii) of the FD&C Act, and are not regulated by the FDA.1 Since there is no regulation, it is uncertain what is actually going into the products that are shipped out to consumers. It is not legal to purchase CBD in the states, and but this does not deter online pharmacies.1 The mislabeling and lack of regulation of this product has uprooted one individual's life, and has the potential to do the same if there is no action taken to either regulate the product to ensure its removal from the market.

SOURCES:

1. "FDA and Marijuana: Questions and Answers." FDA and Marijuana: Questions and Answers. N.p., n.d. Web. 11 Oct. 2016.

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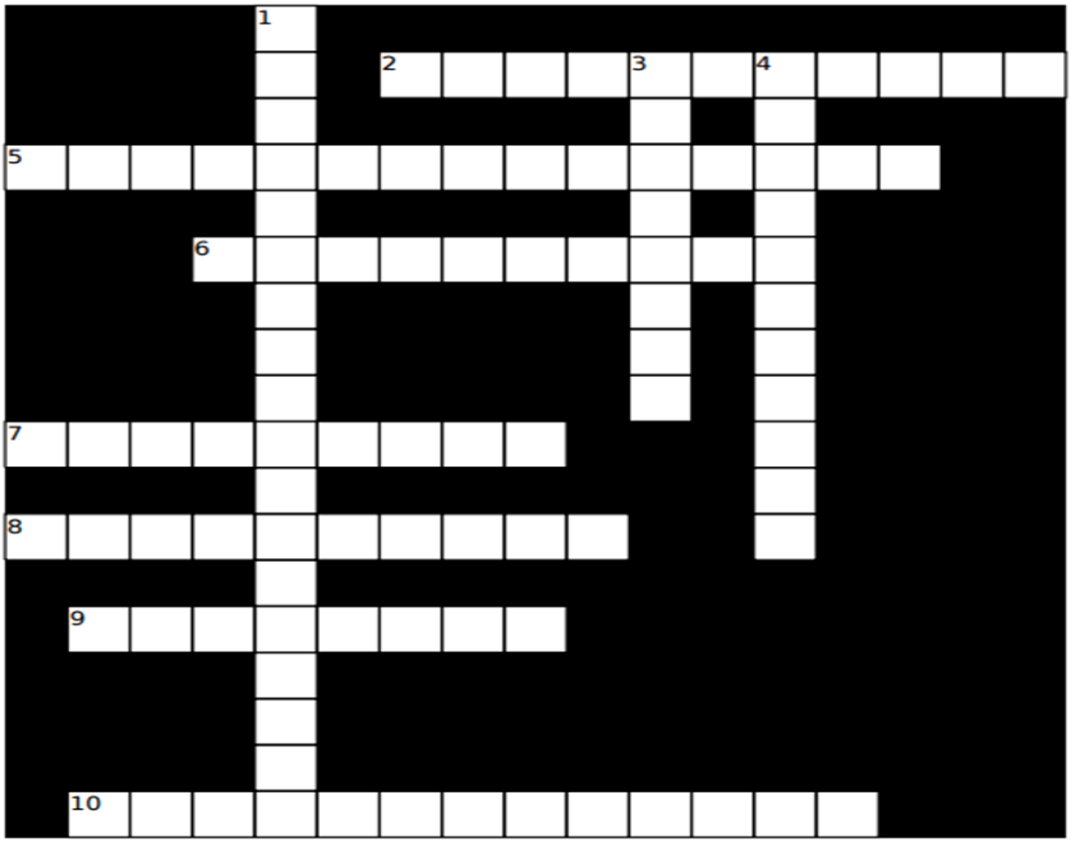
Crossword Puzzle: It's an Emergency!

By: Davidta Brown, Editor-in-Chief



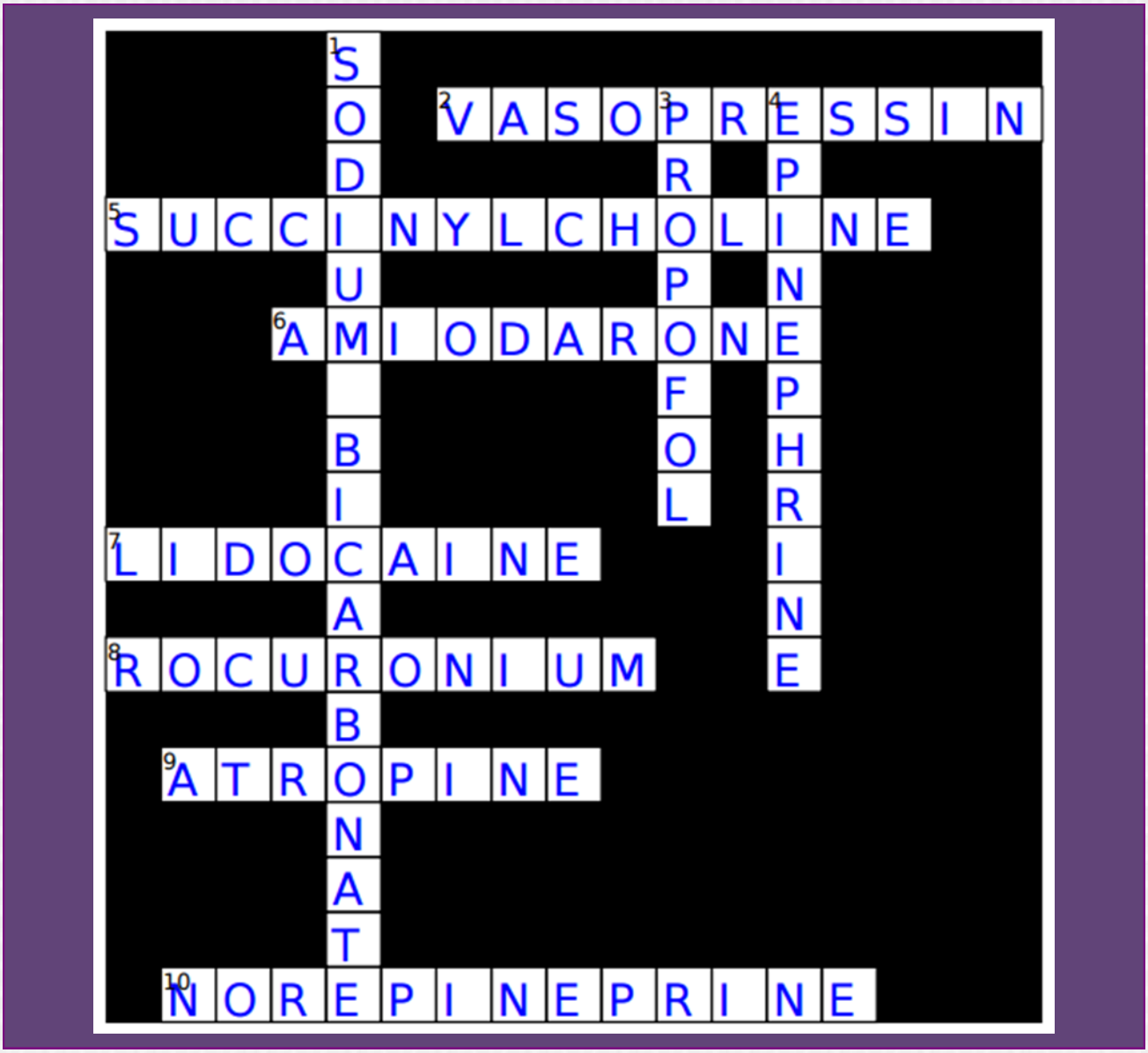
ACROSS

2. Used to increase blood pressure in adults patients with vasodilatory shock (ex. sepsis) who remain hypotensive despite fluids and catecholamines
5. Induces neuromuscular blockade; used an adjunct to general anesthesia to facilitate tracheal intubation, and to provide skeletal muscle relaxation during surgery or mechanical ventilation. Note: Does NOT relieve pain or produce sedation.
6. A class III antiarrhythmic agent; used in refractory, recurrent VF/VT
7. Used systemically for its effect as a class Ib antiarrhythmic agent
8. Used as an adjunct to general anesthesia to facilitate rapid sequence and routine tracheal intubation; also used off-label in the prevention of muscular fasciculations after succinylcholine administration
9. A premedication in rapid sequence intubation, used to inhibit salivation and secretions; also an antidote for anticholinesterase poisoning
10. For the treatment of shock which persists after adequate fluid volume replacement; severe hypotension

DOWN

1. For the management of metabolic acidosis; alkalinization agent for the urine; treatment of hyperkalemia; management of overdose of certain drugs, including tricyclic antidepressants and aspirin
3. In adults, for the sedation in intubated, mechanically-ventilated ICU patients
4. Treatment of type I allergic reactions including anaphylactic reactions; treatment of hypotension associated with septic shock in adults

CROSSWORD PUZZLE: ANSWERS



Source: Lexi-Comp Online™, Lexi-Drugs Online™, Hudson, Ohio: Lexi-Comp, Inc.

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The Rho Chi Post aims to become the most exciting and creative student-operated newsletter within St. John's University College of Pharmacy and Health Sciences

Our newsletter continues to be known for its relatable and useful content

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The Rho Chi Post essentially sets the stage for the future of student-operated publications in pharmacy

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Teamwork

Respect

Excellence

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To have a strong, positive impact on fellow students, faculty, and administrators

To contribute ideas and innovations to the Pharmacy profession