WWW.RHOCHISTJ.ORG

IN THE NEWS / POLITICS
LOCAL EVENTS
CLINICAL ARTICLES
PROFESSIONAL ADVICE / OPINIONS
PUZZLES
CURRENT EDITORIAL TEAM

RHO PxCHI post

VOLUME 3, ISSUE 12

A STUDENT-OPERATED NEWSLETTER BY THE ST. JOHN'S UNIVERSITY COLLEGE OF PHARMACY AND HEALTH SCIENCES' RHO CHI BETA DELTA CHAPTER

Inside This Issue

HIV Pre-Exposure Prophylaxis

By: Elissa Tam PharmD Candidate c/o 2015

HIV/AIDS continues to be a persistent problem in the United States and in various countries around the world. In 2010 alone, there were around 47,500 new HIV infections in the United States with about 1.1 million Americans living with HIV at the end of 2010.[1] When left untreated, or when the patient's immune system is severely compromised, HIV can lead to AIDS and the patient dies from infections that healthy people would normally be safe from. About 15,500 people with AIDS died in the US in 2010.[1] People with HIV are highly encouraged to take cocktails of antiretroviral medications to prevent the progression of HIV to AIDS. In order to prevent the transmission of HIV, people are encouraged to exercise consistent condom use, practice sexual abstinence, limit the number of sexual partners and never share needles.[2] There is also a new method of preventing HIV that has been explored for some time: the use of HIV antiretroviral therapy in HIV-uninfected patients at high risk for HIV infection.

The idea of using antiretroviral therapy in HIV-uninfected patients has been discussed through the years but just recently, in May 2014, the Centers for Disease Control and Prevention (CDC) released its guidelines for the use of daily pre-exposure prophylaxis (PrEP). When taken daily as directed, pre-exposure prophylaxis (PrEP) can reduce the risk for HIV infection by more than 90%. "While a vaccine or cure may one day end the HIV epidemic, PrEP is a powerful tool that has the potential to alter the course of the US HIV epidemic today," Jonathan Mermin, MD, MPH, director of CDC's National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, said in a statement.[3] PrEP medication is not a vaccine; it is a pill called Truvada® (tenofovir and emtricitabine) that has been shown to help block HIV infection.[3]

The CDC recommends that PrEP therapy be considered for the following pa-

We are proud to announce that the Rho Chi Post has received an award from the Rho Chi National Office! We would like to thank our contributors, faculty, editorial team, and our supportive faculty advisor, Dr. Zito, for all their hard work. We look forward to becoming an even greater success!

tients: 1) anyone who is in an ongoing sexual relationship with an HIV-infected partner, 2) a gay or bisexual man who has had sex without a condom or has been diagnosed with a sexually transmitted infection within the past 6 months and is not in a mutually monogamous relationship with a partner who recently tested HIV-negative, 3) a heterosexual man or woman who does not always use condoms when having sex with partners known to be at risk for HIV (eg, injecting drug users or bisexual male partners of unknown HIV status), and is not in a mutually monogamous relationship with a partner who recently tested HIV-negative, and 4) anyone who has, within the past 6 months, injected illicit drugs and shared equipment or been in a treatment program for injection drug use.[3] In the United States, it is estimated that as many as 275,000 uninfected gay and bisexual men and 140,000 uninfected partners in HIV-discordant heterosexual couples could benefit from PrEP.[3]

Despite the promise of preventing and curbing the spread of HIV, there are criticisms of PrEP that include issues of adherence, behavioral repercussions, cost, and safety/effectiveness. The adoption of the drug also has been slow. Many clinicians are hesitant in providing a medication to healthy people. Moreover, the perception of buying unnecessary medications for a disease that they do not currently have is a reason why potential patients are reluctant to ask for PrEP.[4]

The level of effectiveness of the medication for prevention depends on how adherent the patient is. A double blind, placebo-controlled phase III clinical trial called iPrEx was conducted in 11 study sites with a total of 2,499 HIV uninfected participants to determinate whether Truvada® could safely and effectively prevent HIV acquisition through sex in men who have sex with men.[5] According to the iPrEx Study, among gay and bisexual men, those who were given PrEP were 44% less likely overall to get HIV than those who were given a placebo. Among the men with detectable levels of medicine in their blood (meaning they had taken the pill consistently), PrEP reduced the risk of infection by as much as 92%.[6] This data reinforces the fact that the therapy should not be taken for a few weeks or months and then stopped, and then started again, but rather it should be taken continuously. As such, some people find it difficult to adhere to such a daily regimen.

Moreover, effects of PrEP may result in behavioral changes such as decreased condom use.[1] Many public-health officials believe that people will see it as a substitute for condoms.[4] However, though PrEP offers the best protection when taken daily, it is not 100% effective. Condoms serve as additive protection against HIV, as well as against infections such as gonorrhea, chlamydia and hepatitis that is not offered with PrEP. [1] Truvada®, in itself, is very expensive. It is listed at more than $1500/month.[7] While most insurers cover the treatment, there are some people who do not have insurance or the medication is out of reach for them.

PrEP is relatively safe, with early, mild side effects from clinical studies ranging from upset stomach to loss of appetite. Effects of Truvada® on kidney function appear to be temporary.[8] No serious side effects were observed. While bone-density loss occasionally occurs in Truvada® takers who are already infected with the virus, no significant bone issues have emerged in the PrEP studies. And though about one in ten PrEP takers suffer from nausea at the onset of treatment, it usually dissipates after a couple of weeks.[4] Perhaps more importantly, drug resistance has not been observed in people who were HIV-negative when they began treatment. "We're not seeing people getting infected who are actually taking the drug," said Dr. Robert Grant, a professor at the University of California San Francisco and NIH study's lead scientist. "There are people who take the drug home with them and choose not to take it; they get infected, but you're not going to get drug resistance from something that stays in a drawer." [4]

Regardless of the criticism and the slow use of using PrEP, it is still considered a powerful HIV prevention tool. If combined with condoms and other preventive methods, it is hoped that it will be successful in preventing HIV and slowing the progression of the pandemic.

SOURCES:

1. HIV/AIDS. *Centers for Disease Control and Prevention.* http://www.cdc.gov/hiv/basics/statistics.html. Published June 18, 2014. Accessed July 20, 2014.
2. "HIV and Its Transmission". Centers for Disease Control and Prevention. 2003. Archived from the original on February 4, 2005. Accessed July 20, 2014.
3. Brooks M. CDC Updates HIV Preexposure Prophylaxis Guidelines. *Medscape Medical News.* http://www.medscape.com/

viewarticle/825156. Published May 14, 2014. Accessed July 20, 2014.
4. Glazek C. Why is No One on the First Treament to Prevent HIV? New Yorker. http://www.newyorker.com/tech/elements/why-is-no-one-on-the-first-treatment-to-prevent-h-i-v. Published October 1, 2013. Accessed July 20, 2014.
5. National Institute of Allergy and Infectious Diseases (NIAID); Bill and Melinda Gates Foundation. Emtricitabine/Tenofovir disoproxil fumarate for HIV prevention in men. In: ClinicalTrials.gov [Internet]. Bethesda (MD): National Library of Medicine (US). 2000- [cited 2014 Oct 10]. Available from: http://clinicaltrials.gov/ct2/show/NCT00458393?term=iprex&rank=2. Identifier: NCT00458393.
6. Grant RM, Lama JR, et. al. Preexposure Chemoprophylaxis for HIV Prevention in Men Who Have Sex with Men. *The New England Journal of Medicine*. Dec 2010; 363(37):2587-99
7. Truvada. Lexi-Comp. Accessed July 20, 2014.
8. Celum CL. HIV preexposure prophylaxis: new data and potential use. Top Antivir Med. 2011;19(5):181-5.

NEWS

Ebola Outbreak in West Africa

By: Azia Tariq, Staff Editor

The first recorded outbreak of the Ebola Zaire (ZEBOV), a strain of the ebola virus, occurred in 1976. Since then, three additional types of the deadly virus have been discovered: Sudan Ebola virus (SEBOV), Reston Ebola virus (REBOV), and Côte d'Ivoire Ebola virus (CIEBOV).[1] The initial outbreak had, until recently, the highest number of recorded deaths, taking approximately 280 lives. With 779 reported cases and 481 fatalities, the sheer number of cases in the 2014 outbreak signifies how deadly the current outbreak in West Africa can be.[2] It is the largest outbreak in terms of deaths, number of cases, and geographical spread. The disease has been steadily spreading from Guinea to parts of Liberia and Sierra Leone and the number of cases will continue to increase until the virus has been contained.

Genetic analysis of the virus indicates that it is 97% identical to variants of the Zaire species.[3] Researchers identified the strain in a brief report in the New England Journal of Medicine. To detect the causative agent, Filoviridae-specific Real-time Polymerase Chain reaction (RT-PCR) assays that target a conserved region in the L gene were utilized. In addition, the exact strain was confirmed using EBOV-specific real-time RT-PCR assays targeting the glycoprotein (GP) or nucleoprotein (NP) gene. Samples from 15 of the 20 patients tested positive in the conventional L gene PCR assay and the real-time assays, indicating that the virus was indeed Ebola.[4]

As with the other strains of the Ebola virus, the symptoms are at first nonspecific or may resemble numerous disorders, leading those affected to assume that he or she has an innocuous illness. The incubation period is anywhere from 2 to 21 days. Days after the initial infection, the condition progressively worsens and results in nausea, vomiting, diarrhea, fever, and hemorrhages.[5] The case fatality rate was found to be 86% among the early confirmed cases and 71% among clinically suspected cases, which is consistent with the case fatality rates observed in previous EBOV outbreaks.[4]

The stigma associated with the disease has made it more difficult to trace and contain as many deny being in contact with infected persons when questioned by health workers. As a result, rather than seeking medical attention, infected individuals resort to leaving their homes and traveling to other locations in order to escape the negative perceptions. Thomas Fletcher, M.D, from the Department of Pandemic and Epidemic Diseases at the World Health Organization, who is currently managing Ebola virus infection cases in Conakry, Guinea, explained what his patients experience and what can be done to improve care. "I've never encountered such a frightened group of patients," he said. "Bear in mind they have often seen their family members die, and they can almost chart their progression through the symptoms, especially the healthcare workers who obviously have an increased knowledge."[5] He stresses that combating patient fear is crucial for healthcare delivery and infection control cooperation in the community. Fear can lead to reluctance within the community to identify and isolate possibly infected individuals, which hinders treatment.

Heinz Feldmann, MD, PhD, who studies Ebola and other hemorrhagic fever viruses at the National Institute of Allergy and Infectious Diseases, confirms that there is still a long way to go before a vaccine

or treatment is developed for any Ebola virus. Countermeasures against the disease mainly consist of identification and support. A few treatment approaches have shown some promise, though they have yet to reach Phase I of human clinical trials. Therapeutic interventions that demonstrate some potential include antibody treatment and small interfering RNAs or phosphorodiamidate morpholino oligomers. The former treatment has been successful in macaques, any monkey of the genus Macaca, even when antibodies are administered more than 72 hours after infection. Treatment via a small synthetic molecule, BCX4430.5, also seems plausible. The most likely vaccine approaches are based on recombinant technologies, such as virus-like particles produced through plasmid transfection as well as replication-incompetent and replication-competent viral vectors.[6]

As treatment options are limited, it is vital to remain diligent in identifying and isolating the virus and those infected so that the situation is not further exacerbated. It is equally important to ensure that the community is educated about the misconceptions of the disease and that patients know when to seek care.

SOURCES

1. Outbreak Table- Ebola Hemorrhagic Fever. *CDC*. Available at: http://www.cdc.gov/vhf/ebola/resources/outbreak-table.html. Accessed August 2, 2014.
2. Ebola virus disease, West Africa – update. *WHO*. Available at: http://www.who.int/csr/don/2014_07_03_ebola/en/. Accessed August 2, 2014.
3. Outbreak of Ebola in Guinea and Liberia. RxList. Available at: http://www.rxlist.com/script/main/art.asp?articlekey=177838. Accessed August 2, 2014.
4. Baize S, Pannetier D, Oestereich L, et al. Emergence of Zaire Ebola virus disease in Guinea – Preliminary Report. *New England Journal of Medicine*. Available at: http://www.nejm.org/doi/suppl/10.1056/NEJMoa1404505/suppl_file/nejmoa1404505_prelim.pdf Accessed August 2, 2014.
5. First-Hand Experience From Guinea Offers New Ebola Insight. Medscape. Available at: http://www.medscape.com/viewarticle/825220#2. Accessed August 2, 2014.
6. Feldmann H. Ebola – A Growing Threat? *New England Journal of Medicine*. Available at: http://www.nejm.org/doi/full/10.1056/NEJMp1405314.

Celiac Disease: Seeking Proper Treatment

By: Sang Hyo Kim, Staff Editor

The Mayo Clinic reported in the American Journal of Gastroenterology that 1.8 million people in the United States suffer from celiac disease.[1] More notably, of this population, over 75% of people are unaware that they even have this condition. While other studies have been conducted to determine the prevalence of diagnosed and undiagnosed celiac disease, the one performed by Mayo Clinic reveals the most definite results thus far.[1,2] It is crucial for those who suffer the symptoms of celiac disease to be tested; though some symptoms may coincide with other bowel syndromes, it is in the best interest of the patient to seek immediate help so he/she can receive necessary medical guidance.

Celiac disease is an autoimmune disease wherein the immune systems attacks gluten, a type of protein found in foods such as bread, crackers, and pasta. The immune response to gluten causes destruction of the villi in the small intestine and therefore makes it more difficult for the body to absorb nutrients. Symptoms can be mild or severe and include gas and bloating, changes in bowel movements, weight loss, fatigue, and weakness.[3] Some patients may vomit after they ingest gluten, however this is more common in adults.

While the cause of celiac disease remains unknown, genetics may be involved. Celiac disease can develop at any point in life, and is most common in Caucasians and persons of European ancestry. Current statistics further show that 60% to 70% of those diagnosed with celiac disease are women.[4,6]

If a patient demonstrates symptoms of celiac disease, the physician will order blood tests that detect special antibodies called antitissue transglutaminase

antibodies (tTGA) or anti-endomysium antibodies (EMA). If the test is positive, a gastroenterologist will perform an upper endoscopy to sample a piece of tissue from the first part of the small intestine, specifically the duodenum, to determine if any flattening of the villi is present.[7] Once a person has been diagnosed, the next step is for the healthcare provider to explain to the patient the course of the disease and the importance of diet modification. Currently, there is no cure for celiac disease. However, symptoms will be attenuated and the intestinal villi can heal if a patient follows a lifelong gluten-free diet. Reading food labels is very important in determining whether a product may contain sources of grains and ingredients from wheat, barley, rye, and oats.

It is estimated that 1.6 million people in the U.S are on a gluten-free diet even though they have never been formally diagnosed with celiac disease.[4] However, Dee Sandquist, a registered dietitian and spokesperson for the American Diabetic Association, says "there's nothing inherently healthier about a gluten-free diet." This is because "gluten-free" products may contain extra sugar and fat to imitate the satisfaction that gluten contributes, and lack vitamins B and D normally found in regular bread products. Therefore, rather than buying products labeled "gluten-free," Mr. Sandquist recommends that people choose more fruits, vegetables, and lean meats.[5]

Since gut nutrient absorption may be compromised in a patient with celiac disease, healthcare providers may also prescribe vitamin and mineral supplements. Pharmacists can contribute to the celiac patient's health by "counseling the patient about gluten-free diet, drugs, vitamins, and nutritional supplements and addressing other health related matters," according to Dr. Robert A. Mangione, EdD, RPH and Dr. Priti N. Patel, PharmD, BCPS.[8] Furthermore, since medications may contain small amounts of gluten, pharmacists should be made aware of these patients' medical condition to avoid exacerbation of the disease, if possible. Thus, while adhering to a gluten-free diet is difficult for many, celiac disease patients must carefully follow well-balanced and gluten-free diet to stay healthy and symptom-free.

SOURCES:

1. Many People With Celiac Disease Are Unaware Of It. MNT Web site. <http://www.medicalnewstoday.com/articles/248523.php> Published August 2nd, 2012. Accessed December 1st, 2013

2. About Mayo Clinic. Mayo Clinic Web site. <http://www.mayoclinic.org/about/> Accessed December 1st, 2013.

3. Signs & Symptoms. Celiac Support Association. <http://www.csaceliacs.info/symptoms_of_celiac_disease.jsp> Accessed January 22nd, 2014.

4.Mayo Clinic: 80% of People on Gluten-Free Diet Do Not Have Celiac Disease Diagnosis. nfca. http://www.celiaccentral.org/research-news/mayo-clinic-80-percent-gluten-free-diet-no-celiac-disease-diagnosis-8306/.> Accessed May 15th, 2014

5.Storrs, C. Will a gluten-free diet improve your health? CNN Health. http://www.cnn.com/2011/HEALTH/04/12/gluten.free.diet.improve/ Published April 12th, 2011. Accessed May 15th, 2014

6.Celiac Disease Prevalence in Women. nfca, <http://www.celiaccentral.org/education/Women-s-Health/Prevalence/453/.> Accessed May 15th, 2014.

7. Celiac Disease-Sprue. The New York Times Web site. <http://www.nytimes.com/health/guides/disease/celiac-disease-sprue/overview.html> Accessed December 2nd, 2013.

8.Mangione, Robert A, Patel, Priti N. Pharmaceutical Care of Celiac Disease. U.S Pharmacist. <http://www.uspharmacist.com/content/d/feature/c/31428/>. Published December 20th, 2011. Accessed May 15th, 2014.

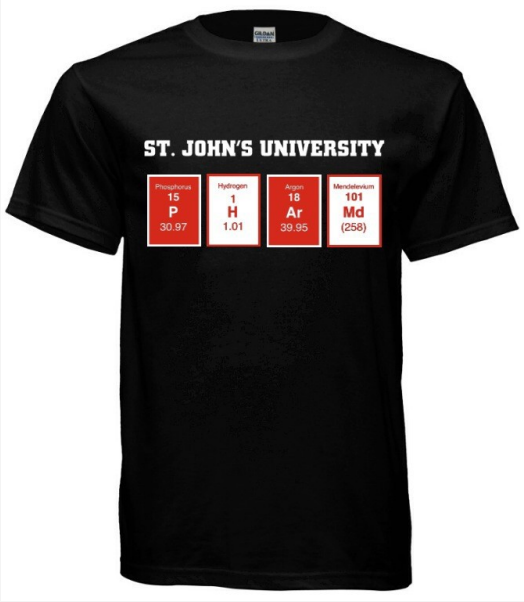
Went to an event on your campus?

Learned something interesting?

Write to our editors at RhoChiPost@gmail.com

The Rho Chi Post is happy to announce that we are selling t-shirts to all pharmacy students at St. John's University!

The cost of each T-shirt is $15, and is available in sizes S - 3XL. We are accepting sales until October 30, 2014.



Please fill out the this form IN ITS ENTIRETY, and place it into an envelope with your cash or money order. The envelope can be dropped off to Dr. Zito in his office (St. Albert's Hall B18) OR given to a Rho Chi Executive Board member.

** The Rho Chi E-Board will also be at Pharmacy Organization Day, which will take place on October 30th from 9am-3pm. ** Keep an eye out for future e-mails on more e-mails on collection times.

For faculty and students on rotations ONLY, we have set up an ONLINE FORM. Please fill it out entirely, and you will receive an invoice from PayPal regarding your payment.

Let's represent pharmacy and our university!

If you have any questions, contact the Rho Chi Post at rhochipost@gmail.com

St. John's Pharmacy Students Get Involved for NYC World Hepatitis Day

By: Kenny Ng, STJ AMCP Chapter President, PharmD c/o 2017, Kenny Chan, STJ AMCP Chapter President-Elect, PharmD c/o 2017, Davidta Brown, Senior Staff Editor

EVENTS

While those who work tirelessly to combat the spread of Hepatitis B and C never have a day off, there is one day in the year during which special attention is paid to their cause. On July 28th, otherwise known as World Hepatitis Day, the St. John's University chapter of the Academy of Managed Care Pharmacy (AMCP) partnered with Team HBV and the NYC Hepatitis B Coalition and Hepatitis C Task Force for a citywide event aimed at informing the public about these different infections.

In the United States alone, there are an estimated 800,000 to 1.4 million chronic cases of hepatitis B, and 2.7 to 3.9 million cases of hepatitis C.[1] Untreated viral hepatitis is a leading cause of long-term liver damage. Because infected individuals can be asymptomatic for years, many of these people are unaware that they have the disease.[2,3] It is important to note that the prevalence of hepatitis B and C varies between different ethnic groups. Hepatitis C-related liver disease is a leading cause of death among individuals aged 45 to 65 in the African-American community, whereas a staggering 1 in 12 Asians and Pacific Islanders suffer from chronic hepatitis B infection.[2,3] Clearly, community outreach to address the prevention and treatment of hepatitis must be audience-specific.

Team HBV, the primary organizers of the World Hepatitis Day event, consists of a group of local volunteers and collegiate and high school chapters who visit local communities with important information about testing and prevention.[4] Hepatitis is a disease state of special interest in Managed Care pharmacy, and it has gained even more attention with the introduction of new specialty drugs for Hepatitis C, including sofosbuvir (Sovaldi®) and simeprevir (Olysio™). These drugs create a difficult scenario for F&T committees, as steep prices leads many to question their true cost-effectiveness for patients.

The World Hepatitis Day awareness event took place in two parts. For the first segment, volunteers were spread throughout the boroughs of New York where they held signs and distributed flyers in populated locations. Volunteers in the borough of Queens were located in Flushing where posters and flyers were written in Chinese, Korean, and English, with hopes of reaching as many hepatitis patients as possible. Volunteers in Manhattan were located in Chinatown and Little Italy. Nearly every passerby would slow their pace to read the posters held by volunteers, and many stopped to receive a flyer or ask for information about testing.

The second part of the World Hepatitis Day event involved volunteers from all five boroughs meeting in Foley Square for an attention-grabbing freeze mob. Participants held large cards that, when put together, loudly shared a message about viral hepatitis prevention. News reporters from local TV stations and radio shows were present to interview New York City Councilmember Margaret Chin and the heads of Team HBV to learn more about World Hepatitis Day. Afterwards, AMCP president Kenny Ng and president-elect Kenny Chan met with Councilmember Chin to introduce themselves on behalf of St. John's University College of Pharmacy & Health Sciences. Councilmember Chin was excited to meet the future of pharmacy and expressed hope that more phar-

macy students throughout New York will get involved in World Hepatitis Day in the years to come. Councilmember Chin informed the volunteers that many Chinese immigrants suffer from chronic to fatal Hepatitis because they lack a basic understanding on early detection and treatment options.

By reaching out to both New York City communities and law and policy makers, the World Hepatitis Day event addressed two major sources of change. Sharing information with both audiences is a way to make a genuine difference in supporting the cause, and it was a privilege to have been a part of this effort.

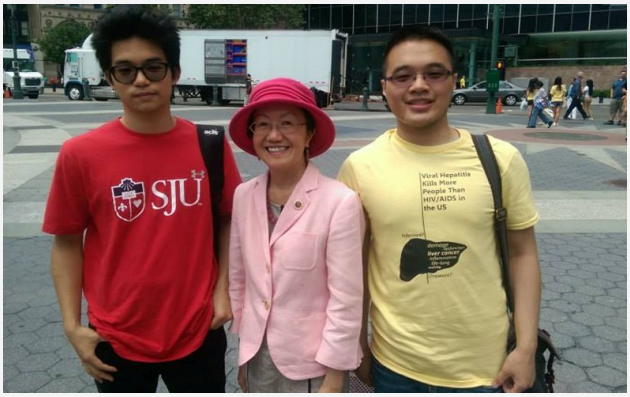
Message from AMCP President, Kenny Ng:
"A special thanks to all the St. John's pharmacy students that participated in NYC World Hepatitis Day this year. If I didn't get the chance to thank you personally for attending World Hepatitis Day, please know that I am eternally grateful for your attendance. I am looking forward to more participation from our peers, and I hope that more state health agencies in New York will soon become familiar with the outgoing and active nature of our pharmacy student body at St. John's University."

For those interested in an internship/volunteer experience with the Liver Foundation, please visit: http://www.liverfoundation.org/chapters/greaterny/news/550/

Sources:

1. Cdc.gov. CDC DVH - Viral Hepatitis Statistics & Surveillance. 2014. Available at: http://www.cdc.gov/HEPATITIS/Statistics/index.htm. Accessed August 13, 2014.
2. Cdc.gov. CDC DVH - Viral Hepatitis Populations - Asian & Pacific Islanders. 2014. Available at: http://www.cdc.gov/hepatitis/Populations/api.htm. Accessed August 13, 2014.
3. Cdc.gov. CDC DVH - Viral Hepatitis Populations - Hepatitis C in the African American Community. 2014. Available at: http://www.cdc.gov/hepatitis/Populations/AAC-HepC.htm. Accessed August 13, 2014.
4. Teamhbv.org. About | Team HBV. 2014. Available at: http://teamhbv.org/about/. Accessed August 13, 2014.

Kenny Chan, NYC Councilmember Margaret Chin, Kenny Ng



Photographs published for this article are approved by and are the sole property of College of Pharmacy and Health Sciences, Davidta Brown and the Rho Chi Post.

For updates like our Facebook page:

https://www.facebook.com/RhoChiPost

Interested in joining the Rho Chi Post?

Submit an article and letter of intent

To rhochipost@gmail.com

View the application: http://rhochistj.org/RhoChiPost/application/

Below are some FAQ please email us for any other concerns!

Who can join the Rho Chi post? Do I have to be a member of Rho Chi?

You do not have to be a member of the Rho Chi Honor Society to contribute to the newsletter. You can be in any year of your Pharmacy education to join the Rho Chi Post. In fact, any member of the College of Pharmacy and Health Sciences can join our team!

What positions can I apply for to become a permanent member of the team?

1. Staff Writer: Commitment per issue: 2 contributions- either pieces that you write or pieces that you get from your friends

2. Staff Designer

-Web based: Commitment per issue: Redesign and upkeep of the website

-Graphic based: Commitment per issue: Any graphic designing that goes into creating the issue.

3. Staff Editor: Commitment per issue: 1 contribution, 2 articles edited

-Note: for this position you need to show past editing experience.

What can I write about?

Feel free to write about any topic that interests you! Please just email us with your topic so there are no duplicates. For suggestions check out our list: http://rhochistj.org/RhoChiPost/article-signup/

*Log in username is required

How long will it take to review my application?

After we accept your article for publication, we will respond to you via email within 7 days.

Besides the article requirement, how time consuming is being a member?

We only meet a few times each semester! Most of our communications are done online. Besides the meetings just meet your monthly requirements!

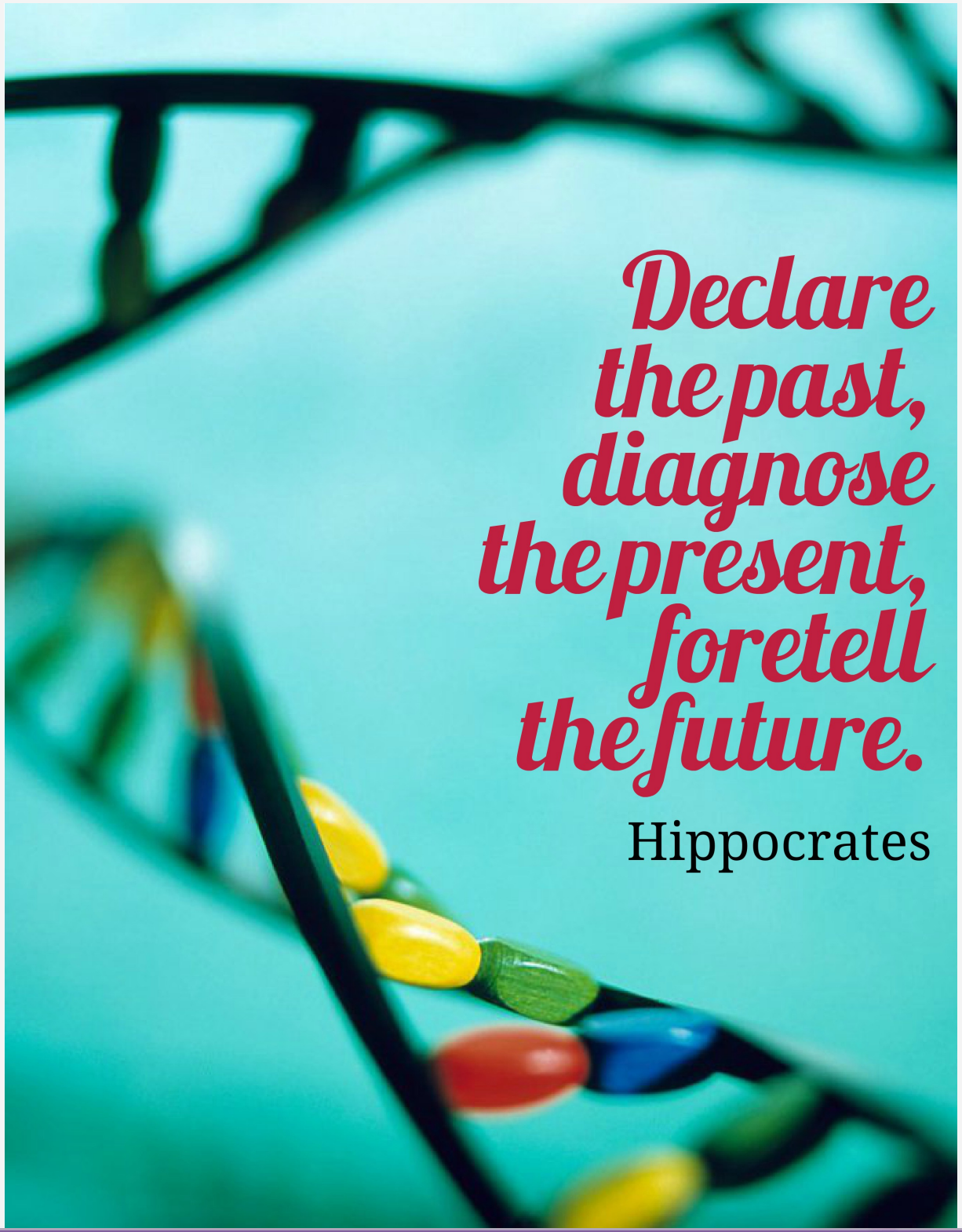
Are there any dues?

No dues are required to become a member!

If you don't want to commit to a permanent position, we welcome any submission at any time. There is no minimum or maximum to how many articles a person can submit!

Quote of the Month

By Melissa Roy, Co-Copy Editor [graphics focused]



CLINICAL

Reservoir of Migraine Therapies Includes Analgesics, AEDs, and now Monoclonal Antibodies

By Davidta Brown, Senior Staff Editor

The pain, nausea, and light or sound sensitivity that comprise a migraine attack afflict more than 10% of individuals around the world, easily making migraines one of the most globally debilitating diseases of the present day.[1] According to the International Headache Society (IHS), migraines are defined by both pain and frequency. Migraine headache is typically a frontotemporal pain, characterized by unilateral location, pulsating, and associated nausea or vomiting.[2] Furthermore, each recurrent migraine attack may last from 4 hours to as many as 72 hours if untreated.[1]

The IHS classifies migraines as either migraine with aura, or migraine without aura.[2] Aura is the term given to the series of neurological symptoms that occur before the onset of migraine headache, and may include visual disturbances, "pins and needles" sensations, and motor weakness.[2] Chronic migraine is another migraine subgroup, distinguished by the occurrence of any headache on fifteen or more days out of a month, and migraine headache on at least eight days out of a month.[2] Some patients experience a "premonitory phase", hours or days before the migraine headache, or a resolution phase after the pain has subsided. Premonitory and resolution symptoms may include hyperactivity, hypoactivity, repetitive yawning, or depression.[2]

Migraine is now known to be a vascular headache, caused by the activation of nerve fibers in the walls of blood vessels supplying the cranial meninges.[3] However, since the pathology of this condition is not completely understood, relief consists of either avoiding triggers or treating symptoms. Currently used acute treatments, administered as soon as symptoms occur, include triptans to increase plasma levels of serotonin, which leads to constriction of the blood vessels, and reduction of the pain threshold.[3] Ergot derivatives are another option, which create therapeutic effect by binding to serotonin receptors on nerve cells to decrease the transmission of pain signals.[3] Patients may also rely on the use of NSAIDs to reduce inflammation and alleviate pain.

The American Academy of Neurology recommends the anti-epileptic drugs divalproex sodium, sodium valproate, and topiramate, as well as β-blockers metoprolol, propranolol, and timolol, as part of their evidence-based guidelines for migraine prophylaxis.[4] In addition, frovatriptan is suggested for the prevention of menstrual migraine headache.[4] In terms of comparative effectiveness, topiramate is deemed to be probably as effective as propranolol, sodium valproate, and amitriptyline.[4] Metoprolol is possibly as effective as aspirin in migraine prevention.[4]

Consistent follow-up evaluation and testing is necessary to treatment with divalproex sodium and sodium valproate, because of the associated risks of liver failure, pancreatitis, and teratogenicity.[4] Weight changes are another significantly reported adverse effect associated with some of these migraine prophylactics. In one study, 18.8% of patients given topiramate experienced weight loss, and 34.5% of patients treated with sodium valproate showed weight gain.[4] Among the beta-blockers, metoprolol patients showed no significant adverse events while propranolol patients experienced some drowsiness, fatigue, and weight gain.[4] Although these drugs can be effective in some people, others do not find relief and some cannot take these medications due to contraindications or the side effect profile of the drug.

For several years, it has been known that a 33-amino acid neuropeptide called calcitonin gene-related peptide (CGRP) has played a role in the causation of migraine pain. While the protein has varied functions throughout the body, it works in the central nervous system to dilate intracranial blood vessels, modulate pain perception, and enhance the release of another pain mediator, substance P.[5] Plasma levels of CGRP are elevated in individuals suffering from migraine attacks, and intravenous administration of CGRP to patients who are chronic migraine sufferers triggers migraine-like pain.[5,6] This knowledge has made the CGRP molecule a highly favorable target for inhibitory drug therapy.

To this end, several pharmaceutical companies have invested in the research of drugs intended to inhibit CGRP activity at its receptor. Unfortunately, these experimental treatments have shown little long-term clinical success. One study of CGRP-receptor

antagonists also revealed that prolonged use leads to elevated plasma transaminase. [6,7] An investigational antagonist called Telcagepant caused these high levels in patients enrolled in a small phase II study.[8,9] However, since this result has proven to be singular, it is unclear whether the adverse event was a response to the particular compound or to the class as a whole.[8]

Some companies have sought remedy through a different route by targeting the CGRP protein itself and have found greater success. In particular, two therapies that employ monoclonal antibodies to target CGRP have yielded favorable results in clinical trials. One treatment is administered as a single dose by IV, while the other is a biweekly injection, but both are antibody treatments that target CGRP molecules.[10] The IV treatment study followed 163 patients who were randomly given either a single dose of the drug or a single dose of placebo.[10] Before treatment, these patients were suffering 5 to 14 migraines a month.[10]After the 5 to 8 week observation period, this number was reduced by a statistically significant average of 5.6 days per month, as opposed to 4.6 fewer migraines per month on the placebo.[10, 11]

Results from the biweekly injection were similarly positive. Data was collected from 217 patients, randomly given either the placebo or the monoclonal antibodies every other week for 12 weeks.[10] Patients receiving the antibodies experienced 4.2 fewer migraine days per month, compared to 3 fewer days on the placebo.[10] In both the biweekly injection trial and the intravenous trial, a noticeable improvement in patient symptoms was observed with the placebo, but the benefits seen with drug treatment were enough to allow researchers to deem the results clinically relevant. The near absence of adverse effects was another observation that makes these antibodies a serious contender among the other suggested prophylactic treatments. There is still a great deal of research that needs to be done before CGRP-targeting antibodies find a place in the treatment regimen for migraine, and current research is still at an early stage. Nevertheless, in the eyes of the researchers and of millions of migraine-sufferers, targeting CGRP with antibodies is a promising new treatment modality with the potential to alleviate widespread suffering.

SOURCES:

1. NINDS Migraine Information Page. NIH National Institute of Neurological Disorders and Stroke. http://www.ninds.nih.gov/disorders/migraine/migraine.htm. Updated April 16, 2014. Accessed June 2, 2014.
2. Headache Classification Committee of the International Headache Society (IHS). The International Classification of Headache Disorders, 3rd edition (beta version). Cephalgia. 2013;33(9):629-808. doi: 10.1177/0333102413485658.
3. Headache: Hope Through Resarch. NIH National Institute of Neurological Disorders and Stroke. http://www.ninds.nih.gov/disorders/headache/detail_headache.htm. Accessed August 1, 2014.
4. Silberstein S, Holland S, Freitag F, Dodick D, Argoff C, Ashman E. Evidence-based guideline update: Pharmacologic treatment for episodic migraine prevention in adults Report of the Quality Standards Subcommittee of the American Academy of Neurology and the American Headache Society. Neurology. 2012;78 (17):1337--1345.
5. Arulmani U, MaassenVanDenBrink A, Villalón C, Saxena P. Calcitonin gene-related peptide and its role in migraine pathophysiology. Eur J Pharmacol 2004; 500 (1-3):315-330. doi: 10.1016/j.ejphar.2007.07.035.
6. Bigal ME, Walter S. Monocloncal antibodies for migraine: precenting calcitonin gene-related peptide activity [abstract]. CNS Drugs. 2014; 28(5):389-399. doi: 10.1007/s40263-014-0156-4.
7. Dolgin E. Antibody drugs set to revive flagging migraine target. Nat Rev Drug Discov. 2013;12(4):249-250. doi: 10.1038/nrd3991.
8. Villalón CM, Olesen J. The role of CGRP in the pathophysiology of migraine and efficacy of CGRP receptor antagonists as acute antimigraine drugs. Pharmacology & Therapeutics. 2009;124(3):309-323. doi: 10.1016/j.pharmthera.2009.09.2003.
9. Tepper SJ, Cleves C. Telcagepant, a calcitonin gene-related peptide antagonist for the treatment of migraine [Abstract]. Curr Opin Investig Drugs. 2009;10 (7):711-20. http://www.ncbi.nlm.nih.gov.jerome.stjohns.edu:81/pubmed/19579177. Accessed August 2, 2014.
10. Norton A. New Drugs May Help Prevent Migraines. HealthDay. http://consumer.healthday.com/head-and-neck-information-17/headaches-health-news-345/new-drug-may-help-prevent-migraines-687057.html. Published April 22, 2014. Accessed June 2, 2014.
11. American Academy of Neurology. New Drugs Offer Hope for Migraine Prevention.; 2014. Available at: https://www.aan.com/PressRoom/Home/

CLINICAL

MANAGEMENT OF WARFARIN THERAPY IN ANTIPHOSPHOLIPID SYNDROME

By: Nancy Rizkalla PharmD Candidate c/0 2015

ROLE OF WARFARIN THERAPY

- Warfarin is a vitamin K antagonist used for the purpose of anticoagulation
- Warfarin exerts its anticoagulant effect by inhibiting the production of clotting factors II, VII, IX, and X
- Warfarin possesses a narrow therapeutic index and requires diligent monitoring to ensure that the patient is not at undue risk of bleeding or thrombosis
- The effect of warfarin is influenced by many factors, including diet and concomitant drug use
- Warfarin therapy is monitored through the INR, with a predetermined therapeutic range for various indications
- A supratherapeutic INR indicates a higher risk of bleeding whereas a subtherapeutic INR indicates a higher risk of thrombosis
- Warfarin is pregnancy category X (exception: category D for patients with mechanical heart valves) and should therefore be avoided in pregnant patients
- The effects of warfarin may be reversed with vitamin K (phytonadione) supplementation
- Warfarin is **NOT** used as primary thromboprophylaxis in APS patients*

*Low dose aspirin may be used long term as primary thromboprophylaxis in high-risk aPL patients with no prior thrombosis, especially in the presence of other thrombotic risk factors[6]

EVIDENCE-BASED RECOMMENDATIONS

INTENSITY OF WARFARIN THERAPY

- Few randomized controlled clinical trials (RCTs) evaluated the optimal intensity of warfarin therapy in APS patients.
- Current standard of care is largely based on data provided by two prospective RCTs that questioned the superiority of high intensity vs. moderate intensity warfarin therapy for secondary prophylaxis in APS patients.[1,5]
- In Crowther *et al*, 114 APS patients with previous thrombosis (mostly venous thromboses) were randomly assigned to either moderate intensity warfarin (58 patients; INR 2.0-3.0; average INR attained 2.3) or high intensity warfarin (56 patients; INR 3.1-4.0; average INR attained 3.3). Subjects were followed for a mean of 2.7 years. Significant findings: **the rate of thrombotic events was numerically but not statistically greater in high-intensity group (10.7 vs. 3.4%, HR 3.1, 95% CI 0.6-15; p=0.15)**, ½ of recurrent thrombotic events in both groups occurred when the INR was below 2, and the rates of major bleeding episodes were similar in both groups (3 patients in high intensity group, 4 patients in moderate intensity group).[2]
- In Finazzi *et al*, 109 APS patients with previous thrombosis (mostly venous thromboses) were randomly assigned to either standard intensity warfarin (55 patients; INR 2.0-3.0; average INR attained 2.5) or high intensity warfarin (54 patients; INR 3.0-4.5; average INR attained 3.2). Subjects were followed for a mean of 3.6 years. Significant findings: **recurrent thrombosis observed in high intensity group at 11.1% vs. 5.5% in standard intensity group, although this difference was not statistically significant** (HR 1.97; 95% CI 0.49-7.89; p=0.3383), and combined major and minor bleeding episodes 27.8% in high intensity group (2 major, 13 minor) vs. 14.5% in standard intensity group (3 major, 5 minor) with a **statistically significant increase in minor bleeding with high intensity therapy (p=0.027).**[3]
- Conclusion→**warfarin therapy with target INR >3.0 is not superior in reducing rates of recurrent thrombosis compared to therapy with target INR 2.0-3.0** and is associated with higher rates of bleeding.[2,3]
- Disagreement exists among experts in treatment of APS patients with **arterial thrombosis.** Proposed treatments: warfarin (INR 2.0-3.0) + ASA (81mg/d)(only one RCT to date has tested this method, however the design was flawed [Okuma *et al*[4]]) **OR** warfarin alone with higher target INR (>3.0). It is acknowledged that evidence to support either approach is limited and of low quality.[1,6]

CLINICAL

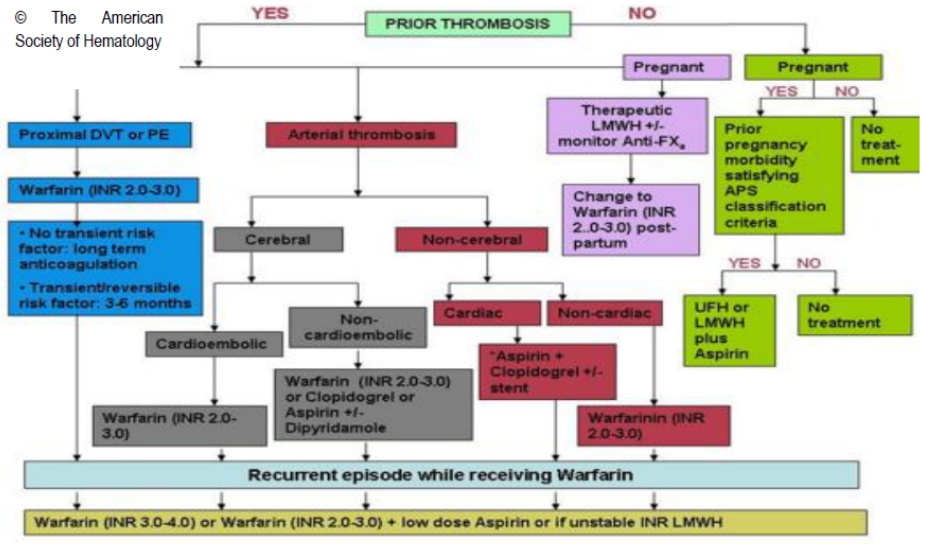
CLINICAL

DURATION OF WARFARIN THERAPY

- Optimal duration of anticoagulation in APS patients following first VTE event is uncertain due to a lack of RCTs conducted addressing this question
- Experts have turned to other sources of evidence in an attempt to derive a scientifically sound approach regarding the handling of APS patients[5]
- In APS patients with low risk aPL profile (isolated or intermittently positive, low-medium titer), **if first VTE event occurs in context of a transient, reversible provoking factor (i.e. surgery, trauma, estrogen therapy), it is reasonable to consider a finite duration of anticoagulation therapy** (3-6 months)[5,6]
- However, in a prospective study by Schulman *et al*, among 412 patients studied following first VTE episode who received 6 months of anticoagulation, risk of recurrence was 29% in patients with positive anticardiolipin antibodies 6 months after VTE event vs. 14% in those without antibodies. In patients with antibodies, there was an increased risk in the 6 months **AFTER** cessation of anticoagulation therapy[7]
- Furthermore, authors of a 2002 systematic review concluded that anticoagulation is warranted indefinitely in patients with APS and venous thrombosis[8].
- **It is therefore reasonable to consider indefinite anticoagulation in APS patients if initial VTE event occurred in absence of provoking risk factors or patient suffered recurrent event after cessation of anticoagulation therapy** (provided bleeding risk is acceptable)[5,6]
- 81mg/d ASA is warranted if warfarin must be discontinued[1]

WARFARIN TREATMENT FAILURE

- If thrombotic episode occurs while patient is on warfarin with therapeutic INR, there are several treatment alternatives:
  - Resume warfarin with higher target INR (3.0-4.0)[5,6]
  - Add ASA (81mg/d) to standard warfarin therapy (INR 2.0-3.0)[5,6]
  - Switch to LMWH (reserve for INR that cannot be stabilized since very limited data suggests this treatment is as effective and safe as long-term use of warfarin)[5,6]
- Choice of alternative treatment will depend on patient factors (ability to comply with warfarin therapy, bleeding risk) since limited evidence on comparative efficacy[1]
- Experts prefer 81mg/d ASA + standard warfarin therapy due to increased bleeding risks with high intensity warfarin[1]
- 2007 systematic review concluded no benefit with addition of low dose aspirin to warfarin therapy in patients who experienced thrombotic event despite an INR >3[9]



6. Ruiz-Irastorza G, Cuadrado MJ, Ruiz-Arruza I, et al. Evidence-based recommendations for the prevention and long-term management of thrombosis in antiphospholipid antibody-positive patients: report of a task force at the 13th International Congress on antiphospholipid antibodies. *Lupus*. 2011;20:206-218

7. Schulman S, Svenungsson E, Granqvist S. Anticardiolipin antibodies predict early recurrence of thromboembolism and death among patients with venous thromboembolism following anticoagulant therapy. *Am J Med*. 1998;104(4):332-338

8. Erkan D, Leibowitz E, Berman J, Lockshin MD. Perioperative medical management of antiphospholipid syndrome: hospital for special surgery experience, review of literature, and recommendations. *J Rheumatol* 2002; 29:843

9. Ruiz-Irastorza G, Hunt BJ, Khamashta MA. A systematic review of secondary thromboprophylaxis in patients with antiphospholipid antibodies. *Arthritis Rheum* 2007; 57:1487

REFERENCES

1. Bermas, BL. Treatment of the Antiphospholipid Syndrome. In: UpToDate, Post, TW (Ed), UpToDate, Waltham, MA, 2014

2. Crowther MA, Ginsberg JS, Julian J, et al. A comparison of two intensities of warfarin for the prevention of recurrent thrombosis in patients with the antiphospholipid antibody syndrome. *N Engl J Med*. 2003;349(12):1133-1138

3. Finazzi G, Marchioli R, Brancaccio V, et al. A randomized clinical trial of high-intensity warfarin vs. conventional antithrombotic therapy for the prevention of recurrent thrombosis in patients with the antiphospholipid syndrome (WAPS). *J Thromb Haemost*. 2005;3(5):848-853

4. Okuma H, Kitagawa Y, Yasuda T, Tokuoka K, Takagi S. Comparison between single antiplatelet therapy and combination of antiplatelet and anticoagulation therapy for secondary prevention in ischemic stroke patients with antiphospholipid syndrome. *Int J Med Sci* 2009; 7: 15-18

5. Giannakopoulos B, Krilis SA. How I treat the antiphospholipid syndrome. American Society of Hematology *Blood Journal*. 2009; 114: 2020-2030

Ask the Reader

In this section, we will introduce a controversial topic relevant to the fields of pharmacy and healthcare, as well as some resources for readers to learn more. Respond with your thoughts and opinions by messaging the Rho Chi Post Facebook page, or by emailing us at rhochipost@gmail.com.

Selected comments will be published in an upcoming issue of the Rho Chi Post. You may comment anonymously, or with your name, major, and class year. Share your opinions with us - we want to know what you think!

Question:

"Should it be considered cheating for a student to use stimulant medications solely to improve his or her focus while studying, without a diagnosis of ADD or ADHD? What if the meds are prescribed by a doctor (and therefore legal), but obtained by faking the symptoms? Or is it no different from drinking coffee or an energy drink?"

Read more:

http://www.cbsnews.com/news/adhd-stimulant-drug-use-in-college-is-it-a-form-a-cheating/

http://www.cnn.com/2014/04/17/health/adderall-college-students/

http://www.samhsa.gov/data/2k9/adderall/adderall.pdf

Remember, you do not have to be a member of the Rho Chi Honors Society to write for the Rho Chi Post.

Got something interesting to say?

Want to publish your poster presentation? Want to review a new drug on the market?

Then write to us at **RhoChiPost@gmail.com**

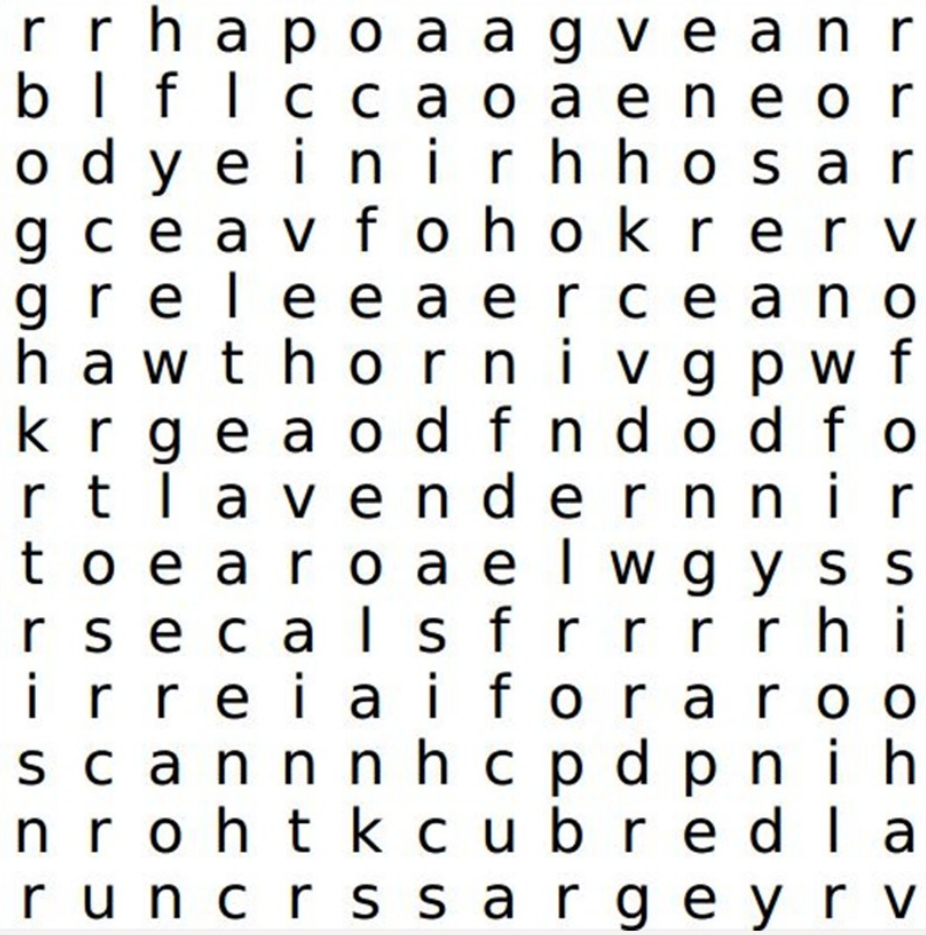
Visit our website:

http://rhochistj.org/RhoChiPost/Topics/

Herbal Treatment Word Search

By Davidta Brown, Senior Staff Editor

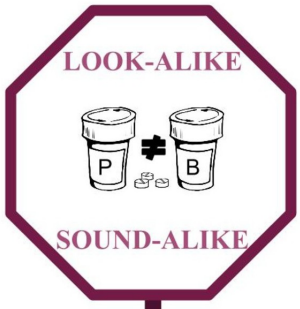
For each symptom or illness listed, find the herbal treatment that is used to alleviate or prevent it, in the word search. (Note: All herbals are paired only with symptoms that they are identified as "Possibly Effective" or "Likely Effective" to treat according to AccessPharmacy® Quick Reference: Herbs & Supplements.)



- Constipation
- Psoriasis*, Herpes Simplex*, Constipation
- Migraine Headache*
- Hypertriglyceridemia
- Angina, Congestive Heart Failure
- Atherosclerosis, Hypertension, Ringworm*
- Alopecia Areata*
- Psoriasis*
- Benign Prostatic Hyperplasia
- Concentration and coordination, Hepatitis

*The herbal treatment is administered topically to treat this condition. All others are given orally.

PUZZLES



Matching Column: Look-Alike Sound-Alikes

By: Sherine Jaison
PharmD Candidate
Class of 2015

Many drugs

LOOK – ALIKE

OR

SOUND– ALIKE

causing them to be easily mixed up in practice.

Can **YOU** match these facts with the correct medication?

Answers

1. An anti-hypertensive that should be discontinued as soon as pregnancy is detected
2. This monoclonal antibody is used for the treatment of Crohn's disease and multiple sclerosis and has a black box warning for increased risk of progressive multifocal leukoencephalopathy
3. Used for the treatment of trichomoniasis and giardiasis, this drug has a warning for causing carcinogenicity
4. The oral form of this drug is used in the treatment of leukemia and the topical form is used in the treatment of acne
5. Patients of Asian descent are recommended to undergo HLAB*1502 screening before starting this medication
6. Concomitant use with ciprofloxacin or fluvoxamine is contraindicated with this medication
7. A beta blocker used to treat glaucoma
8. At a low dose this medication can be used as a sedative
9. An integrase inhibitor that is approved for ages 12 and above
10. Dosed 3-4 times a day, this drug is used in the treatment of Parkinson's disease

A. Trileptal
B. Tysabri
C. Timolol
D. Trihexyphenidyl
E. Trazodone
F. Tivicay
G. Telmisartan
H. Tretinoin
I. Tinidazole
J. Tizanidine

Lexi-Comp OnlineTM , Lexi-Drugs OnlineTM , Hudson, Ohio: Lexi-Comp, Inc.; September 1st, 2014

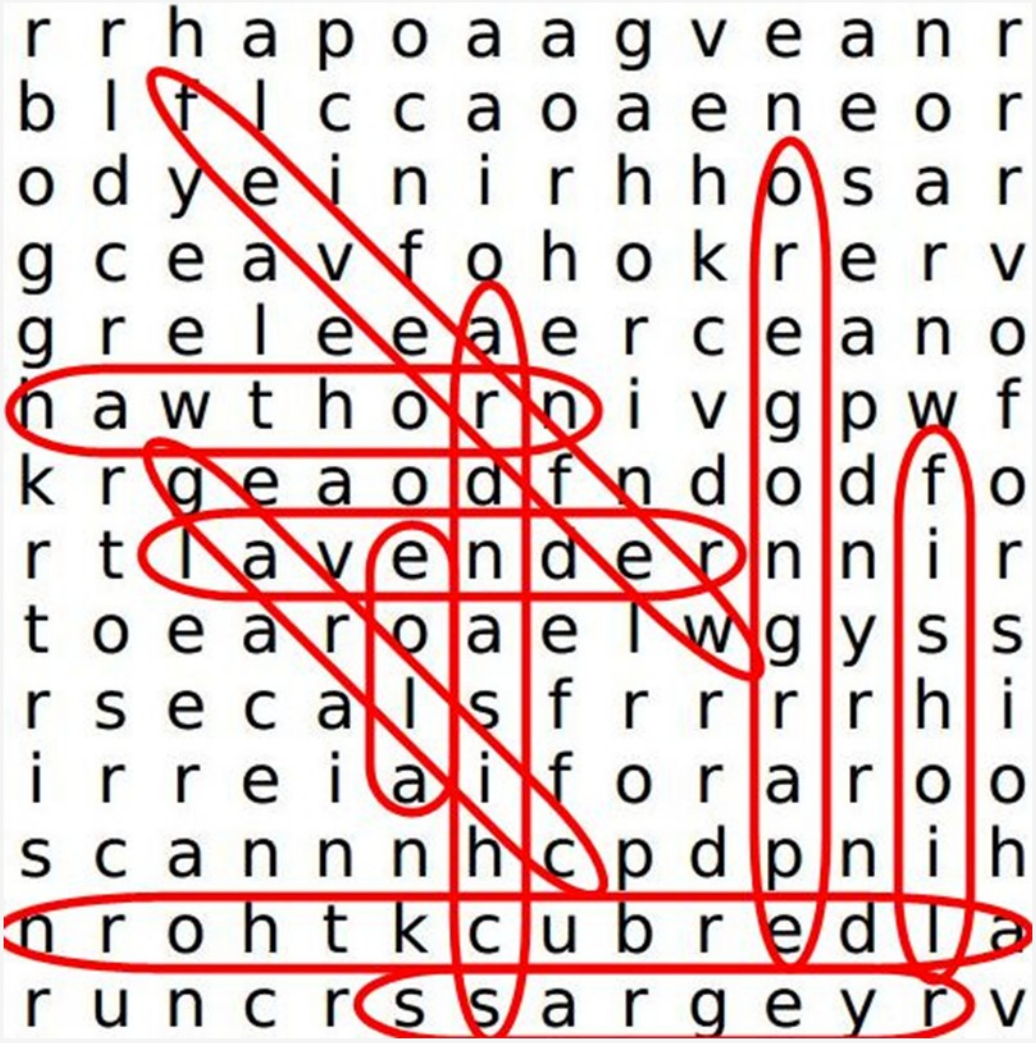
PUZZLES

PUZZLES

How Did You Do???

Answers to Crossword & Look Alike and Sound Alike

A. 5 B. 2 C. 7 D. 10 5. 8 F. 9 G. 1 H. 4 I. 3 J. 6



Do you enjoy our puzzles?

Send us a suggestion for a brainteaser at

RhoChiPost@gmail.com

We will feature your work in our next issue!

RHO CHI POST: TEAM MEMBERS

EDITORS

@ Katharine Cimmino ***(6th Year, STJ; Editor-in-Chief)***
I have always been an avid reader and writer. As a member of the Rho Chi Post I am able to merge my passions with the professionalism that comes with aspiring to be a healthcare provider. I am eager to be a part of a publication that promotes my interests and vocation.

@ Bharat Kirthivasan ***(PhD, Co-Copy Editor [Content-Focused])***
I am a doctoral candidate 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.

@ Hayeon Na ***(6th Year, STJ; Co-Copy Editor [Content-Focused])***
Hello! My name is Hayeon Na. I am a 2015 PharmD Candidate and one of the Copy Editors for the Rho Chi Post. I hope the information I present will be helpful, or at least interesting. If you have any comments regarding my contribution, feel free to contact me at any time!

@ Tasnima Nabi ***(5th Year, STJ; Co-Copy Editor [Content-Focused])***
Writing has always been my greatest outlet for experience and knowledge, through which I hope to keep you engaged and informed. It is imperative to keep up with our changing profession and community, and I look forward to bringing pertinent information to the newsletter.

@ Erica Dimitropoulos ***(6th Year, STJ; Co-Copy Editor [Content-Focused])***
As busy student pharmacists, we often fail to keep current with healthcare developments. My aim is to sort through the news and provide quick updates that are important to our profession. Feel free to contact me if there are any topics you would like to see covered in the next issue!

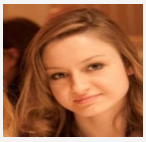
@ Melissa Roy ***(6th Year, STJ; Co-Copy Editor [Graphics-Focused])***
We as future healthcare professionals owe it to our patients and ourselves to be aware and current on the events affecting our profession. The Rho Chi Post is our way to learn new things and stay in touch with the pharmacy world, on- and off-campus. Feel free to reach out to me with suggestions and comments.

RHO CHI POST: TEAM MEMBERS

@ Tamara Yunusova ***(4th Year, STJ; Senior Staff Editor)***
My name is Tamara Yunusova, and I am a 3rd year Pharm D candidate at St. John's University. I enjoy articulating information in a captivating and insightful way. I hope to make this publication more informative, student-friendly, and innovative.

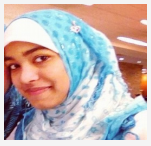
@Davidta Brown ***(4th Year, STJ; Senior Staff Editor)***
My two great loves are innovative science and quality writing, and the Rho Chi Post is an insightful combination of both. As an editor, I look forward to bringing relevant information and fresh perspectives to the student and faculty of St. John's University, as well as to making the Rho Chi Post a newsletter that offers something new to every reader.

@ Beatrisa Popovitz ***(6th Year, STJ; Senior Staff Editor)***
I am eager to relay current information on interesting topics making waves in the world of healthcare pertinent to the advancement of our profession. As student pharmacists, we are molding the future of our profession, and the Rho Chi Post facilitates the cultivation of a relationship (between students, faculty, and other members of the healthcare community) to share ideas and spread awareness of various issues.



@ Ada Seldin ***(6th Year, STJ; Staff Editor)***
I am thrilled to have become a new member of the Rho Chi Post team. I hope to further strengthen the goals of this newsletter and make a lasting contribution. It is important, as future pharmacists, to collaborate with our peers, as well as accomplished professionals in the field. Rho Chi Post provides a vehicle to voice our opinions and share relevant news.

@ Sang Hyo Kim ***(3rd Year, STJ; Staff Editor)***
Advancements of technology and developments of new medicines, prolonging the lifespan and improving the quality of life, have increased the geriatric population. In years to come, pharmaceutical industries and healthcare systems will persistently work to find solutions to changing demands and new problems of the society. Through the Rho Chi Post, I wish to learn, educate, and prepare myself and others for the future.



@ Fatema Elias ***(5th Year, STJ; Staff Editor)***
I am honored to be a part of the Rho Chi Post team. In this age of technology and the continuously changing healthcare profession, I hope to engage like-minded students and professionals. Writing is something that I hold dear to my heart and I hope with this newsletter we can all stay well informed, interested, and educated.

@ Azia Tariq ***(4th Year, STJ; Staff Editor)***
The Rho Chi Post is a prominent and highly esteemed resource for pharmacy students and professionals. I am privileged to be a part of the team and hope to contribute informative and engaging pieces to the newsletter.

@ Sherine Jaison ***(6th Year, STJ; Staff Writer)***
I find the Rho Chi Post extremely informative and am eager to join the team. I hope my articles will enlighten you about the recent developments in the field of pharmacy and will help you to be a well-informed healthcare provider.

?

@ You!
We are always looking for creative and motivated students to join our team!
If you are interested in becoming an editor for the Rho Chi Post, please visit:
http://rhochistj.org/RhoChiPost/EditorApplication

EDITORS

RHO CHI

The Rho Chi Society encourages and recognizes excellence in intellectual achievement and advocates critical inquiry in all aspects of Pharmacy.

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

The Society seeks universal recognition of its members as lifelong intellectual leaders in Pharmacy, and as a community of scholars, to instill the desire to pursue intellectual excellence and critical inquiry to advance the profession.

THE RHO CHI POST

MISSION

The Rho Chi Post is a monthly, electronic, student-operated, faculty-approved publication that aims to promote the pharmacy profession through creativity and effective communication. Our publication is a profound platform for integrating ideas, opinions, and innovations from students, faculty, and administrators.

VISION

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. Our editorial team continues to be known for its excellence and professionalism. The Rho Chi Post essentially sets the stage for the future of student-operated publications in pharmacy.

VALUES

Opportunity, Teamwork, Respect, Excellence

GOALS

1. To provide the highest quality student-operated newsletter with accurate information
2. To maintain a healthy, respectful, challenging, and rewarding environment for student editors
3. To cultivate sound relationships with other organizations and individuals who are like-minded and involved in like pursuits
4. To have a strong, positive impact on fellow students, faculty, and administrators
5. To contribute ideas and innovations to the Pharmacy profession

CURRENT EXECUTIVE BOARD

Anthony, Tyler, Sara, Tasnima, Joshua, Fawad at the 2014 Induction Ceremony

President: **Tyler Valente**
Vice President: **Fawad Piracha**
Secretary: **Tasnima Nabi**
Treasurer: **Anthony Nania**
Historian: **Sara James**
Media Relations Coordinator **Joshua Bliss**
Faculty Advisor: **S. William Zito, PhD**

UPCOMING EVENTS

Nov 5-7: ASCP Annual Meeting
Orlando, FL

Nov 10-14: AAPS Annual Meeting
San Antonio, TX

Dec 7-11: ASHP Midyear
Anaheim, CA