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Inside This Issue

Recent Advances in HIV Treatment

By: Jenny Park, PharmD Candidate c/o 2015

A series of broad HIV specific monoclonal antibodies (mAb) have been isolated and been shown to bind to CD4 binding sites, V1/V2 loops, V3/V4 loops, glycans, and proximal external regions. It has been shown that administration of a "cocktail" of HIV-1 specific monoclonal antibodies along with single glycan dependent mAb PGT121 resulted in decline of viral plasma to undetectable levels in monkeys that were infected with Simian HIV (SHIV).[1]

Two research centers, The Harvard Medical School and the National Institute of Allergy and Infectious Diseases, evaluated the therapeutic potential of broad and potent HIV-1 specific mAbs in primates with an intact immune system. The teams worked with monkeys infected with a monkey-human hybrid version of HIV known as Simian HIV (SHIV). SHIV is an engineered virus that contains HIV and SIV and is used in animal models.[2] Researchers infused combinations of mAbs into rhesus macaques, also known as Nazuri monkeys. These monkeys all exhibited viral loads of 3.4–4.9 log RNA copies/mL along with disease progression and reduced CD4+ T lymphocyte counts.[2]

It was shown that a single mAb infusion had up to a 3.1 log decline of plasma viral RNA in seven days and also reduced proviral DNA in peripheral blood, gastrointestinal mucosa, and lymph nodes without the development of viral resistance.[2] Following the initial mAb infusion, there was a rapid decline of plasma viral loads to undetectable levels by day seven in all of the monkeys. Viral control lasted for 84 to 98 days in two of the monkeys. One monkey had viral replication control until day 98 while another monkey exhibited long term viral control for over 200 days despite the absence of detectable serum antibodies after day 70. It was also shown that proviral DNA in peripheral blood declined by ten fold in the monkeys that received antibody therapy. [3] After the antibody infusion, there

was also an increase in host virus specific neutralizing antibody activity as and improved T lymphocyte responses. The National Institute of Allergy and Infectious Diseases obtained similar results to that of the Harvard Medical Team.

However, given the differences between SHIV-infected rhesus monkeys and HIV-1 infected humans, clinical trials are required to establish the therapeutic efficacy of potent neutralizing HIV-1 specific mAbs in human. The idea of shifting the standard of care for HIV patients from their current daily multiple pill burdens to periodic injections has the potential to revolutionize care for this population. However, nothing can be proven until what has been seen in these studies holds true in human beings. As said by Dr. Collins, Director of NIH, "If we could convince the immune system to develop these antibodies routinely, then we'd really have something."[4]

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Grastek®: FDA Approves New Sublingual Immunotherapy for Allergies

By: Kevin Lin, PharmD Candidate c/o 2015

This April, the FDA approved three sublingual immunotherapies for pollen induced allergic rhinitis: Grastek® (Timothy Grass Pollen Allergen Extract), Oralair® (Grass Pollen Allergen Extract), and Ragwitek® (Short Ragweed Pollen Allergen Extract). Formulated by Merck, Grastek® is Timothy grass pollen allergen extract. It is approved for patients ages 5 through 65 and is intended to treat only Timothy grass pollen. While Timothy grass pollen is one of the most common allergens in North America, Grastek® does not cover other common grass pollens such as Bermuda grass.[1] Prior to use of this medication, skin testing is done to confirm the presence of the specific allergy; a red and raised bump where the allergen extract is placed on the skin confirms sensitivity to the allergen. Another diagnostic procedure involves blood testing that detects the presence IgE antibodies against Timothy grass.[2]

Immunotherapy is the only available treatment for for pollen allergies that provides a long lasting benefit even if interrupted or discontinued. Immunotherapy reduces the level of antibodies to pollen in the blood, creating a less sensitive response to the allergen. Until now, immunotherapy was performed in a physician's office, requiring patients to come back multiple times for injections for a total of 3 years.[3] This new sublingual immunotherapy offers a revolutionary alternative that is both painless and convenient.

Grastek® must be initiated at least 12 weeks before grass pollen appears (typically in late spring to summer) and is taken throughout the pollen season.[4] It is not indicated for immediate relief of allergic symptoms. Due to the risk of experiencing a serious allergic reaction, patients must receive the initial dose under the supervision of a physician and be observed for at least 30 minutes.[5] Some of the most common adverse reactions include oral pruritus (26.7%), throat irritation (22.6%), ear pruritus (12.5%), and mouth edema. Of

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note, Grastek® carries the risk of anaphylaxis and as such, it is recommended that patients also be prescribed an EpiPen while on this medicaton.[5]

The efficacy of Grastek® was demonstrated in 2 placebo-controlled trials. One trial involved 1501 patients ages 5 through 65, and the other 344 pediatric patients ages 5 through 17. The trials lasted approximately 24 weeks with rhinoconjuctivitis daily symptom scores (measured by nasal and ocular symptoms) and daily medication scores (measured by the need for allergy medication) as end points. Nasal symptoms included runny, stuffy and itchy nose and sneezing while ocular symptoms were described as gritty, itchy, and watery eyes. Furthermore, a third endpoint called "total combined scores" was measured. This encompassed both symptoms and need for medication. Both trials found a significant reduction in nasal and ocular symptoms as well as the use of allergy medication compared to placebo.6 In total combined scores, a reduction of 23 percent (95% CI: -36.0%; -13.0%) and 26 percent (95% CI: -38.2%; -10.1%) was found in each trial, respectively.[5]

Grastek® was also found to have sustained effectiveness of one year after termination of treatment. In a five year study, 634 patients ages 18 to 65 were randomized to either placebo or Grastek®. Patients received treatment for three consecutive years and were then observed for two more years with no treatment. Patients experienced a decreased total combined score after three years of active treatment and had a sustained effect for one year after discontinuation of Grastek®. However, effectiveness was not seen in the second year.[5]

Overall, Grastek® is found to reduce allergy symptoms as well as the need for allergy medication. It is also effective for one-year post treatment. Those who suffer from allergies from Timothy grass pollen can consider this medication for effective relief from seasonal nasal and ocular symptoms.

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The Importance of the Measles Vaccine: Should We Be Vaccinated?

By: Sherin Pathickal, PharmD Candidate c/o 2016

The mandatory receipt of vaccinations as a preventive public health measure has long been a controversial issue in our society.[1] Despite the popular use of immunizations, many reservations about vaccine constituents and their safety have prevailed, leading to increasing numbers of unvaccinated people.[1]

Opponents of vaccinations have argued that the presence of thimerosal, a preservative, can lead to the development of autism in children.[2] However, studies published by the Institute of Medicine have indicated that autism still remains high in our society despite the removal of this ingredient from vaccines, lending support to the theory that autism is due to other factors such as genetics.[3] In addition, opponents of vaccinations have stated that vaccines contain toxic concentration of aluminum . This too has been refuted by the FDA as it has been found that the aluminum in vaccines only accounts for approximately 1% of the amount of aluminum normally ingested through food and water.[2]

The latest measles outbreaks spurred by the lack of vaccination in a community highlight the importance of vaccinations as a preventive measure.

Many diseases for which vaccines have been developed are highly contagious, placing unvaccinated people at a higher risk of infection. The latest measles outbreaks spurred by the lack of vaccination in a community highlight the importance of vaccinations as a preventative measure. Measles is a highly infectious virus; according to the Center for Disease Control(CDC), 90% of those who are not vaccinated will develop the disease if exposed.[4] Prior to the development of a measles vaccine, the disease infected up to 4 million people in the United States.[4] Chronic disabilities hospitalizations, and death have resulte from these infections. Since the introduction of the vaccine however, there has been a 99% decrease in the the number of measles outbreak. Furthermore, nearly 84% of children worldwide have been immunized Thus, vaccinations serve as an invaluable public health measure that can help to prevent outbreaks of deadly diseases.

With various organizations such as the Texas East Mountain International Church speaking out against the use of vaccinations in their communities, the number of infectious cases is on the rise. The pastor of the East Mountain International Church, Terri Pearsons, has spoken out many times about the dangers of vaccines. As a result, a substantial number of the church's members, including children, were not vaccinated.[5] This became a problem when a member of the community returned from a trip to Indonesia where she was exposed to measles and caused a rapid spread of the virus to the members of the Newark community. Upon exposure to the virus, 25 people acquired the infection. Of these 25 people, six adults and nine children were from the Eagle Mountain International Church, and 12 of these 15 members were found to not be vaccinated against measles.[5] The remaining cases were reported in other counties of Texas such as Denton County, indicating that the measles outbreaks had spread throughout the state. Furthermore, while many of the adults who contracted the illness received the first part of the two dose regimen, they failed to receive the second dose which is highly recommended. Therefore, both doses are needed to ensure full protection against the disease.[5]

Measles is continuing to spread throughout the United States. Nearly 20 cases have broken out in New York, specifically NewYork-Presbyterian Hospital.[6] Despite the fact that only 20 cases have been found, nearly 600 people may have been exposed

within this hospital alone.[6]With so many people becoming infected due to this largely preventable disease, it is clear that proper education is needed to inform the society about the importance of vaccinations.

With so many people becoming infected due to this largest preventable disease, it is clear that proper education is needed to inform the society about the importance of vaccinations.

Measles is problematic because it is easily spread from person to person contact such as coughing or sneezing. Even after the infected person has left the room, the virus can still remain alive for up to two hours.[7] Common symptoms of measles include cough, muscle pain, fever, and a red rash.[7] The rash, which is considered to be one of the most significant signs of this illness, usually presents within three to five days of the infection and can last up to a week.[7] It typically starts from the top of the body around the head, and moves down the body to the extremities.[7] The rash is itchy and can be flat or raised in nature.[7] There is currently no known cure for measles, and health care administrators are often only able to treat the symptoms through pain relievers, bed rest, etc.[7] Although one can recover from measles, secondary complications such as bronchitis, pneumonia, or encephalitis increase the risk of mortality greatly.[7] It is becoming clear that without proper vaccinations in our communities, measles can and will become problematic.

The incidence of measles has been fluctuatingthroughout the years, with already 135 cases in 2013 compared to 55 documented cases in 2012.[8] The numbers alone clearly indicate that counseling about the importance of vaccinating each member over the age of one is needed for these communities in order to reduce spread of this disease.[5] With over 150,000 people around the world dying from measles each year, vaccinations are proven to be a viable method of prevention. As future healthcare professionals, it is our role to underline the importance of following all vaccine recommendations and to answer any questions that our patients may have. In doing so, we, along with other healthcare professionals, can begin to work towards eradicating these preventable diseases and adequately ensure positive health outcomes for the community.

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HIMSS Conference NYC

By: Sean Caltabiano PharmD Candidate c/o 2015, Minjoo Park PharmD Candidate c/o 2015, & Elissa Tam PharmD Candidate c/o 2015

With special thanks to Dr. Vibhuti Arya, PharmD, Assistant Clinical Professor, St. John's University, the Primary Care Information Project, and the New York City Department of Health and Mental Hygiene, Queens, NY.

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As part of our rotation at the Department of Health and Mental Hygiene with our preceptor, Dr. Vibhuti Arya, the three of us attended the annual New York State Mini-HIMSS (Health Information and Management Systems Society) Conference on April 23rd in New York City.

Before attending the conference, we had no idea what HIMSS was or what impact it had on pharmacists and healthcare. After doing some research, we learned that HIMSS is "a non-profit organization that focuses on providing leadership in healthcare information technology management. By improving and supporting healthcare information and management systems, the organization hopes to achieve high quality patient care at the lowest practical cost. HIMSS believes that with good technological utility, there can be better care delivery to patients by all healthcare professionals."[1]

By improving and supporting healthcare information and management systems, the organization hopes to achieve high patient care at the lowest practical cost.

After registration and breakfast, we met with Anthony Ferrante, an officer in various HIMSS chapters and our liaison at the event. He welcomed us and spoke to us about HIMSS and their mission to use information technology to focus on better health. Kris Kusche, the New York HIMSS President, then gave the opening remarks and introduced the first speaker: the executive director of the New York eHealth Collaborative, Dave Whitlinger. He talked about a universally accessible, public utility program of clinical health information called the Statewide Health Information Network of New York (SHIN-NY) that should enable collaboration among patients, providers, payers and public health officials to improve the quality of care. SHIN-NY will also have several services such as statewide patient record lookup, notifications such as alerts, statewide secure messaging and lab results delivery. Whitlinger also shared the exciting news that on March 31st, 2014, the New York State Legislature had approved $55 million in funding for SHIN-NY. Hopefully, this amount of money means there will be better and more effective coordination of care for the various communities of patients across New York State when this program gets implemented.

The second speaker, Frank Winters, regional representative from the Centers for Medicare and Medicaid Services, talked about the Affordable Care Act, especially as related to accountable care organizations (ACOs). ACOs are groups of healthcare professionals that promote seamless coordinated care by evaluating data to improve patient outcomes, managing resources carefully by accessing the same electronic health records, and proactively reaching out to patients with advice and reminders. ACOs were established as part of Affordable Care Act in order to reduce duplication of services and overall, reduce medical costs. These ACOs are generally evaluated according to four key domains: 1) patient/caregiver experience, 2) care coordination/patient safety, 3) preventative health, and 4) at-risk population. The ACOs must meet these quality targets in order to share in savings, and the amount of savings shared depends on quality performance. Thus, instead of getting fees for each of the services health professionals administer (e.g. individual labs, treatment and consultations), they are now getting fees for performance and the quality of care

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these providers deliver.

The third speaker was Kelly Cronin, Director of the Office of Care Transformation in the Office of the National Coordinator for Health Information Technology, who spoke to the audience about the use of health information technology-enabled care transformation to coordinate interoperability among various areas of healthcare. She talked about how the current state of electronic health records (EHF) and data exchanges are disparate and not longitudinal, but through meaningful use of EHR technology, she hoped for a more integrated way of relaying health-related information among health professionals and patients alike. Mary Ann Christopher, President and CEO of the Visiting Nurse Service of New York, was the fourth speaker. She talked to the audience about leveraging information for effective home and community-based care. In her presentation, she stressed the importance of maintaining low costs while improving access to health and the quality of care by transforming healthcare into a patient-centered and community-centric delivery system. She emphasized the use of technology such as text messaging or phone calls as a tool to engage and communicate with patients and to encourage self-management, as well as to share information across disciplines, providers and settings. After these speaker presentations, three different track sessions were held with one track focusing on healthcare transformation, the second track on security and privacy, and the third track on clinical informatics. aaaaAttending the conference allowed us to realize how much technology can be integrated into the healthcare system to improve the coordination of patient care. Usually when we think about healthcare, we focus on the patient-physician relationship and the drugs that help alleviate or combat diseases. However, technology can be used appropriately to deliver pertinent information and can help drive these relationships and improve delivery of care. Even as pharmacists, we are an important part of the healthcare system that can help improve and provide the optimal care to patients by using technology effectively to communicate with our patients. As Dr. Arya said, "As health information technology continues to evolve, students and pharmacists would benefit from knowing what is on the horizon and think of innovative ways to help improve patient outcomes using technology. Whether engaging patients directly in the use of technology, or thinking back end data analytics, all students and pharmacists have an opportunity to get involved and ger creative!"

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We Welcome St.John's New President

Conrado M.Gempesaw

Ph.D, Provost and Executive Vice President for Academic Affairs at Miami University in Oxford, Ohio, as the

17th President of St.John's University.

Antipsychotic Use in the Elderly with Dementia

By: Ada Seldin, Staff Editor

The overuse of antipsychotics in the nursing home population for off-label indications continues to impact patient safety. In 2005, the FDA issued a black box warning that stated, "The treatment of behavioral disorders in elderly patients with dementia with atypical antipsychotic medications is associated with increased mortality." The evidence supporting this advisory was reported as a series of 17 placebo controlled trials performed with olanzapine, risperidone, aripiprazole, and quetiapine that yielded a 1.6-1.7 fold increase in mortality in the treatment arm. Most of the deaths were attributed to cardiac events or infectious pneumonias.[1]The warning was extended to all atypical antipsychotics, and in 2008, conventional antipsychotics were added to the fold.[2] In the aftermath of the product labeling revisions, many studies demonstrated the lack of established efficacy and the potential for serious adverse events in elderly, demented patients treated with antipsychotics. The issue fell into the spotlight in 2011 when the Department of Health and Human Services released a report that emphasized the high use of atypical antipsychotic medications for off-label indications among nursing home residents, revealing that 83% of atypical antipsychotic drug claims were of this nature.[3]

Although unapproved by the FDA, antipsychotics are used to control neuropsychiatric symptoms, such as agitation and delusions, which afflict 97% of people with dementia over the course of their illness.[4] There is currently no pharmacologic agent on the market that is approved for dementia-related psychosis, posing a serious dilemma when managing these patients. Because symptoms of dementia are particularly distressful and often manifest in danger for both the patient and those around him/her, and because there is no evidence that other psychotropic drug classes offer a safer or more effective alternative, it is no surprise that nursing home staff turn to antipsychotics for symptom control. The ability of antipsychotics to act as antagonists in four key dopaminergic pathways produces both their therapeutic and adverse effects. The target of therapeutic efficacy is the mesolimbic system in which excess dopamine signaling is responsible for the positive symptoms of schizophrenia. Therefore, reducing dopamine neurotransmission in this pathway may treat hallucinations, delusions, and thought disorders. Dopamine antagonism in the mesocortical pathway, on the other hand, may exacerbate cognitive and negative symptoms of schizophrenia. Disruption of dopamine signaling in the nigrostriatal pathway, involved in motor planning, leads to extrapyramidal symptoms. Finally, the tuberoinfundibular pathway plays an important role in the inhibition of prolactin release, the blockade of which causes hyperprolactinemia.[5]

Caution must be exercised as these medications are not benign. A meta-analysis of 15 randomized, placebo-controlled trials with a total cohort of 3353 patients receiving various atypical antipsychotics and 1757 patients randomized to placebo was performed. It included published and unpublished clinical trials on patients with Alzheimer's disease, vascular dementia, mixed dementia, or primary dementia with cognitive impairment ranging from mild to severe. The mean age of study participants was 81.2, and 87% of patients had Alzheimer's disease. Eleven of the trials were conducted in nursing homes and four occurred in an outpatient setting. The study durations ranged from 6 to 26 weeks. The results showed that more deaths occurred in the treatment group, 118 (3.5%) vs. 40 (2.3%). The odds ratio for death in patients treated with antipsychotics compared with placebo was 1.54 (95% CI, 1.06-2.23) and the absolute risk difference was 0.01 (95% CI, 0.004-0.02, p=.01).[6]

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However, because the trials that comprised this analysis were generally 10 to 12 weeks in duration, it is unclear whether the risk of death would remain consistent over the length of treatment or would diminish over time. Furthermore, dose response was not assessed; eight trials allowed dosage adjustment, while the others had either one or several fixed doses of drug. There was no significant difference in dropouts between the drug-treated and placebo groups. Sensitivity analyses did not reveal heterogeneity between trials of patients of higher cognitive function (Mini-Mental State Examination score >10) compared with those that had participants of lower mental function, trials that selected only patients with psychosis of Alzheimer's disease compared with those lacking such selection criteria, inpatient vs. outpatient trials, and among the four drugs included: aripiprazole, olanzapine, quetiapine, and risperidone.[6]

Although the individual causes of death were not examined in this analysis, other clinical trials have demonstrated that antipsychotics are associated with an increased risk of cerebrovascular events, including stroke, in elderly patients with dementia. Potential contributory mechanisms of these medications to cardiovascular injury include orthostatic hypotension, thromboembolic effects, dehydration caused by excessive sedation, impairment of endothelial function due to hyperprolactinemia, and venous stasis secondary to sedation or extrapyramidal symptoms. The cardiovascular effects of antipsychotics, namely syncope and QTc interval prolongation and torsades de pointes, also contribute to mortality risk. Whle atypical antipsychotics generally carry a decreased risk of fatal arrhythmias compared to conventional antipsychotics, ziprasidone has the highest incidence of QTc prolongation. Patients treated with antipsychotics are also at increased risk of death due to pneumonia, especially during the first week of treatment; Extrapyramidal symptoms, sedation, and dry mouth are all culprits in causing aspiration pneumonia.[4]

The Clinical Antipsychotic Trials of Intervention Effectiveness – Alzheimer's Disease (CATIE-AD) study revealed the cognitive effects of atypical antipsychotics used to treat delusions, hallucination, agitation, and aggression in Alzheimer's patients. The study analyzed a sample of 421 outpatients randomly assigned to receive masked, flexible-dose olanzapine, risperidone, quetiapine, or placebo. Patients were followed over a 36-week period and received cognitive assessments at baseline and at least one follow-up assessment at weeks 12, 24, and 36. Patients were excluded if they were taking antidepressants or anticonvulsants, but cholinesterase inhibitors were permitted. Participants who received any atypical antipsychotic for at least 2 weeks prior to assessment had significantly greater rates of decline in cognitive function than those who received placebo, measured by the category instances test, cognitive summary, MMSE, and BPRS. Overall, atypical antipsychotic use over 36 weeks was associated with cognitive decline comparable to one year's deterioration in placebo.[7]

In an effort to ascertain whether the benefits outweigh the risks, a systematic review on the safety and efficacy of atypical antipsychotic use for off-label indications was performed. Study medications included aripiprazole, olanzapine, quetiapine, risperidone, and ziprasidone. Thirty eight clinical trials met inclusion criteria for efficacy evaluation and the outcomes examined were improvement in psychosis (delusions and hallucinations), improvement in agitation, and total global function measured by the Neuropsychiatric Inventory score (NPI). The resulting improvements were small but statistically significant. The NPI total score for atypical antipsychotics was a 35% improvement compared to baseline and the difference between treatment and placebo was 3.41 points. According to study authors, clinically observable changes are 30% improvement and 4 -point advantage over placebo. For the outcome of psychosis, the pooled effect size was 0.20 (95% CI, 0.05 to 0.36) for risperidone, 0.20 (95%

CI, 0.05 to 0.36) for risperidone, 0.20 (95% CI, −0.02 to 0.42) for aripiprazole, 0.05 (95% CI, −0.07 to 0.17) for olanzapine, and −0.03(95% CI, −0.24 to 0.18) for quetiapine. Thus, only risperidone showed statistically significant efficacy in psychosis. Aripiprazole, olanzapine, and risperidone (NNH = 10 and 20 respectively).[8]

In light of the aforementioned evidence, Centers for Medicare and Medicaid Services established the National Partnership to Improve Dementia Care in Nursing Homes and put forth an initial goal to reduce the national prevalence of antipsychotic use in long-term health facilities by at least 15% by the end of 2012. In the ensuing months, the prevalence of antipsychotic consumption among nursing home residents decreased from 23.8% to 20.2%, meeting the proposed objective. In the interest of transparency, CMS has made public the prevalence of antipsychotic medication use in each nursing home on a website called Nursing Home Compare. CMS and its associates track improvement and identify nursing homes in which rates remain high, and tackle deficiencies with direct outreach. State surveyors are sent to facilities to ensure that appropriate care of dementia patients is being upheld.[3]

Antipsychotic agents provide modest benefit in treating behavioral symptoms of dementia and Alzheimer's disease. However, the high incidence and severity of adverse effects as well as the increased risk of death may not warrant the use of these medications in this patient population. Before prescribing potentially harmful medications to elderly patients with dementia, a thorough work-up should be conducted to rule out medical causes (e.g., pain and infection) that may be exacerbating the neuropsychiatric symptoms. If identified and treated appropriately, antipsychotic use can be avoided. In addition, factors in the environment or care giver interaction with the patient should be assessed and modified accordingly. Finally, non-pharmacological interventions, such as reassurance, redirection, increased structure and activities, should be implemented before turning to medications.

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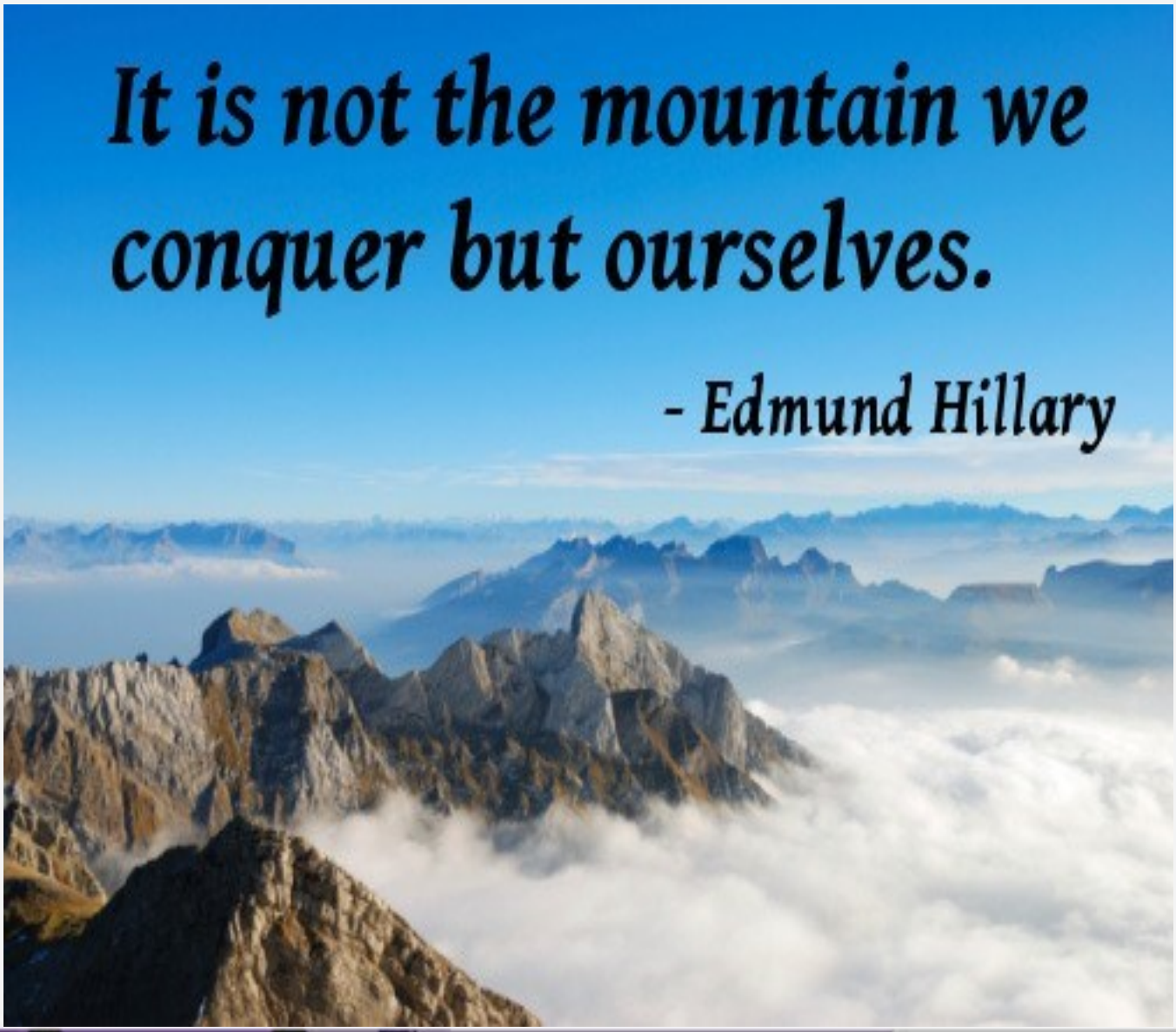
Quote of the Month

By: Sang Hyo Kim, Staff Editor



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Common Medical Terms/Diseases/Procedures by Body System

By: Beatrice Popovitz, Senior Staff Editor

Common Dermatological terms/diseases/procedures	
abscess	Localized collection of pus
contusion	Injury with no break in the skin, characterized by pain, swelling, and discoloration
cyst	A closed sac containing fluid or semisolid material
petechia/iae	Pinpoint skin hemorrhage
pruritis	Severe itching
biopsy (bx)	Removal of living tissue from body to be viewed under microscope
Basal cell carcinoma (BCC)	Epithelial tumor arising from the epidermis
Systemic lupus erythematosus (SLE)	Chronic autoimmune inflammatory disease involving the skin, joints, kidneys, and nervous system.
decub	Pressure ulcer
Candidiasis (aka. thrush)	Infection of skin, mouth, or vagina caused by the yeast-type fungus *Candida albicans*
cellulitis	Inflammation of the skin and subcutaneous tissue as a result of infection, leading to redness, swelling and fever
Kaposi sarcoma	Cancerous condition frequently seen in AIDS patients; in which purple or brown papules on lower extremities spread through the skin to lymph nodes and internal organs
debridement	Removal of contaminated or dead tissue and foreign matter from an open wound

Common Urinary terms/diseases/procedures	
oliguria	Scanty urine
polyuria	Excessive urine
pyuria	Pus in the urine
cystitis	Inflammation of the bladder
dysuria	Painful urination
glycosuria	Glucose in the urine
hematuria	Blood in the urine
nephritis	Inflammation of the kidney
uremia	Condition of urine in the blood
Polycystic kidney disease	Condition characterized by multiple cysts in the enlarged kidney
renal hypertension	Elevated blood pressure resulting from kidney disease
renal calculus	Kidney stone
urinary catheterization	Passage of a flexible, tubelike device into the urinary bladder to withdraw urine

Reviewed by: Dr. S. William Zito

CLINICAL

CLINICAL

Common Respiratory terms/diseases/procedures	
dyspnea	Difficulty breathing
apnea	Absence of breathing
eupnea	Normal breathing
hpercapnia	Condition of excessive carbon dioxide in the blood
hyperpnea	Excessive breathing
hypocapnia	Deficient breathing
hypoxemia	Condition of deficient oxygen in the blood
hypoxia	Condition of deficient oxygen to the tissues
anoxia	Condition of deficiency of oxygen
tachypnea	Rapid breathing
orthopnea	Ability to breathe easier in an upright position
dysphonia	Difficulty speaking
sputum	Mucus secretion from the lungs, bronchi, and trachea expelled through the mouth
paroxysm	Periodic, sudden attack
pleural effusion	Escape of fluid into pleural space as a result of inflammation
pulmonary edema	Fluid accumulation in the alveoli and bronchioles
Pulmonary Embolism (PE)	Foreign matter (i.e. blood clot, air) carried in the circulation to the pulmonary artery, where it blocks circulation
pulse oximetry	Noninvasive method of measuring oxygen in the blood used by using a device that attaches to the fingertip
aspirate	To withdraw fluid or to suction as well as to draw foreign materials into respiratory tract

Common Opthalmic & Otic terms/disieases/procedures	
miotic mydriatic	Agent that constricts the pupil Agent that dilates the pupil
opthalmalgia	Eye pain
photophobia	Abnormal fear of (sensitivity to) light
retinopathy	Any non-inflammatory disease of the eye
xeropthalmia	Condition of dry eye
chalazion	Obstruction of an oil gland of the eyelid
glaucoma	Eye disorder characterized by optic nerve damage usually a result of increased intraocular pressure (IOP)
macular degeneration	Progressive deterioration of the macula lute portion of the retina, resulting in central vision loss
nystagmus	Involuntary jerking movements of the eye
hordeolum (aka stye)	Infection of the oil gland of the eyelid
otalgia	Ear pain
otomycosis	Abnormal condition of fungus in the ear
otitis externa otitis media	Inflammation of the outer ear Inflammation of the middle ear
tinnitus	Ringing in the ears
Meniere disease	Chronic disease of the inner ear, characterized by dizziness, ringing in the ear, and hearing loss

Reviewed by: Dr. S. William Zito

Common Cardiovascular terms/diseases/procedures	
angioma	Tumor composed of blood vessels
aortic stenosis	Narrowing of the aortic valve
arteriosclerosis, artherosclerosis	Hardening of the arteries, hardening of fatty plaque
cardiodynia	Heart pain
cardiomegaly	Enlargement of the heart
cardiomyopathy	Disease of the heart muscle
endocarditis	Inflammation of the inner lining of the heart
ischemia	Deficiency of blood flow
hematoma	Tumor of the blood
pancytopenia	Abnormal reduction of all blood cells
extravasation	Escape of blood from blood vessel into the tissue
dyscrasia	Abnormal or pathologic condition of the blood
Acute coronary syndrome (ACS)	Sudden symptoms of insufficient blood supply to the heart indicating unstable angina or acute MI
aneurysm	Ballooning of a weakened portion of an arterial wall
angina pectoris	Chest pain, which may radiate to the left arm and jaw, occurring when there is insufficient supply of blood to the heart muscle
atrial fibrillation: paroxysmal (intermittent) chronic (sustained)	Cardiac arrhythmia characterized by rapid electrical impulses in the atria causing irregular ventricular response and a reduced ejection fraction.
arrhythmia	Disturbance or abnormality in the normal rhythmic pattern of the heart
cardiac tamponade	Acute compression of the heart caused by fluid accumulation in the pericardial cavity
Congestive Heart Failure (CHF)	Inability of the heart to pump sufficient quantities of blood throughout the body to supply tissues and organs with nutrients and oxygen
Deep Vein Thrombosis (DVT)	Thrombus in a deep vein of the body; commonly found in the lower extremities
Peripheral arterial disease (PAD)	Disease of arteries other than those of the heart and brain that affect blood circulation
angioplasty	Surgical repair of a blood vessel
phlebotomy	Incision into a vein
Coronary artery bypass graft (CABG)	Surgical technique which brings a new blood supply to heart muscle by detouring around blocked arteries
troponin	A heart muscle enzyme released into the blood approx. 3 hours post heart muscle necrosis, and may remain elevated from 7 to 10 days. A troponin test is useful in the diagnosis of MI.
homocysteine	Amino acid that if elevated, may indicate an increased risk of cardiovascular disease
Prothrombin time (PT)	Blood test used to determine certain coagulation activity defects. It is the time it takes for the plasma in the blood to clot.

CLINICAL

Reviewed by: Dr. S. William Zito

CLINICAL

Common Digestive terms/diseases/procedures	
dysphagia	Difficulty swallowing
dyspepsia	Difficulty to digest
emesis	Expelling matter from the stomach through the mouth
melena	Black, tarry stool containing digested blood usually as a result of upper GI tract bleed
cirrhosis	Chronic liver disease with gradual cell destruction and formation of scar tissue; commonly caused by alcoholism
steatosis	Abnormal condition of fat often affecting the liver
ascites	Abnormal collection of fluid in the peritoneal cavity
ileus	Obstruction of the intestine often caused by failure of peristalsis
Crohn disease	Chronic inflammation of the intestinal tract characterized by ulcerations and formation of scar tissue which may lead to intestinal obstruction
ulcerative colitis	Inflammation of the colon with formation of ulcers
Irritable Bowel Disease (IBS)	Disease characterized by periodic disturbances of bowel function, such as diarrhea &/or constipation, associated with abdominal pain
hemochromatosis	Iron metabolism disorder which results from excessive dietary iron absorption, resulting in excessive iron deposits in the tissue leading to CHF, diabetes, cirrhosis or liver cancer
bariatric surgery	Surgical reduction of gastric capacity to treat morbid obesity
colonoscopy	Visual examination of the colon
endoscopy	Visual examination of a hollow organ
laproscopy	Visual examination of the abdominal cavity
Fecal Occult Blood Test (FOBT)	Test which detects occult blood in the feces; used to screen for colon cancer or polyps

Common Musculoskeletal terms/diseases/procedures	
arthralgia	Joint pain
atrophy dystrophy hypertrophy	Wasting away/without development Abnormal development Excessive development
bradykinesia	Slow movement
dyskinesia	Difficult movement
osteocyte	Bone cell
osteoblast	Developing bone cell
fibromyalgia	Condition characterized by pain in the fibrous tissues and muscles, leading to widespread pain and stiffness of muscles, fatigue, and disturbed sleep
myasthenia	Muscle weakness
osteomyelitis	Inflammation of the bone and bone marrow as a result of a bacterial infection
osteopenia	Abnormal reduction of bone mass
osteocarcoma	Malignant tumor of the bone
rhabdomyolysis	Dissolution of striated muscle leading to weakness and pain
Gout	Disease resulting from the deposition of sodium urate crystals in the joints due to an excessive amount of uric acid in the blood
Muscular dystrophy (MD)	Group of hereditary diseases characterized by muscle degeneration and weakness
Myasthenia gravis (MG)	Chronic disease characterized by muscle weakness due to a defect in impulse transmission from nerve to muscle cells
osteoporosis	Abnormal loss of bone density which can lead to an increase in bone fractures; occurs predominantly in post-menopausal women
Rheumatoid arthritis (RA)	A chronic systemic disease characterized by autoimmune inflammatory changes in connective tissue

Reviewed by: Dr. S. William Zito

Common Neurological terms/diseases/procedures	
ataxia	Lack of muscle coordination
coma	State of profound unconsciousness
gait	A manner of walking
syncope	Sudden loss of consciousness caused by lack of blood to the cerebellum
seizure	Sudden attack with an involuntary series of contractions/convulsions
epilepsy	Disorder in which the main symptoms are recurring seizures
encephalitis	Inflammation of the brain
neuralgia	Nerve pain
neurasthenia	Nerve weakness
neuropathy	Disease of the nerves
subdural hematoma	Collection of blood below the dura mater resulting from a broken blood vessel
subarachnoid hemorrhage	Bleeding as a result of a ruptured blood vessel just outside the brain that rapidly fills the sub-arachnoid space with blood
Alzheimer's Disease (AD)	Disease characterized by early senility, confusion, loss of recognition and impaired memory
Amyotrophic Lateral Sclerosis (ALS) / Lou Gehrig Disease	Progressive muscle atrophy resulting from a hardening of nerve tissue on the lateral columns of the spinal cord
Bell palsy	Paralysis of muscles on one side of the face, which is usually a temporary condition
Cerebral Palsy (CP)	Condition characterized by lack of muscle control and partial paralysis
dementia	Cognitive impairment characterized by loss of intellectual brain function
Multiple Sclerosis (MS)	Degenerative disease characterized by sclerotic patches along the brain and spinal cord
Parkinson Disease (PD)	Chronic degenerative disease of the CNS characterized by symptoms of resting tremors of hands and feet, rigidity, expressionless face, and a shuffling gait
sciatica	Inflammation of the sciatic nerve, causing pain from the thigh through the leg to the feet and toes
stroke ischemic: resulting from a blocked blood vessel hemorrhagic/CVA: resulting from bleeding	Term used to describe a cerebral vascular event when neurologic deficits persist for at least 24 hours. Occurs when there is an interruption of blood supply to a region of the brain, depriving nerve cells in the affected area of oxygen and nutrients Occurs when blood escapes from blood vessels into the brain and its surrounding structures.
transient ischemic attack (TIA)	Sudden deficient supply of blood to the brain lasting a short time.

CLINICAL

Reviewed by: Dr. S. William Zito

CLINICAL

Common Endocrine terms/diseases/procedures	
acromegaly	Enlargement of the extremities and bones of the face, hands, and feet as a result of an excessive production of growth hormone
goiter	Enlargement of thyroid gland
exopthalmus	Abnormal protrusion of eyeball
ketosis	Condition in which the body has an abnormal concentration of ketone bodies resulting from excessive fat metabolism due to uncontrolled diabetes mellitus
Addison disease	Chronic syndrome resulting from a deficiency in adrenal cortex hormone secretion, characterized by symptoms of weakness, loss of appetite, depression, etc.
Cushing syndrome	Syndrome resulting from excessive production of cortisol characterized by symptoms of moon face, buffalo hump, and wasting away of muscle
myxedema	Condition resulting from a deficiency of thyroxine; a severe form of hypothyroidism. Symptoms include puffiness of face and hands, coarse and thickened skin, enlarged tongue, slow speech, and anemia
Graves disease	Thyroid gland disorder characterized by presence of hyperthyroidism, goiter, and exopthalmus
Diabetes Mellitus (DM) Type 1: Type 2:	Chronic condition caused by an absolute lack of insulin or relative lack of insulin as a result of impaired insulin secretion and action Due to Beta cell destruction and usually leads to absolute insulin deficiency Due to a progressive insulin secretory defect in the background of insulin resistance

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Reviewed by: Dr. S. William Zito

Quantifying the Benefits of Pharmacist Prescribing Power

By Davidta Brown, Senior Staff Editor

The idea of granting pharmacists the right to prescribe, as well as to counsel and dispense, has long been a source of controversy among healthcare professionals. A study out of the University of Alberta in Canada, published online in mid-April, provided some much needed concrete data for an argument that is often difficult to quantify: how does permitting pharmacists to act as prescribers affect patient outcomes? As the first Canadian province to allow pharmacists the right to prescribe (though this power is limited to certain patient profiles), Alberta proved to be an ideal location for the study.[1,2] This unique investigation managed to isolate and evaluate the effects of expanding the scope of pharmacy practice, and set the stage for future scientific inquiries into the pharmacist's role in patient care.

The patients involved in the study had all suffered and recovered from either a minor stroke or a transient ischemic attack. According to the study's lead author, Finlay McAlistar, this patient population is in particular need of monitoring because among stroke patients in general, "six or 12 months after their stroke, a lot of patients still had uncontrolled blood pressure and uncontrolled cholesterol," increasing their risk of another stroke or cardiac event.[3] At the start of the study, the majority of the patients were already receiving a prescription to manage their cardiovascular risk, with 78.1% of participants receiving antihypertensive drugs and 84.6% receiving statins.4 However, none of the patients met the Canadian Heart and Stroke Foundation's targets for secondary prevention in patients at risk of stroke, which is an LDL cholesterol level of less than 2.0 mmol/L and a systolic blood pressure consistently lower than 140 mmHg.4,5,6 In the majority of patients, the deviation from the target was due to high LDL cholesterol, since many of the patients began the study with ideal systolic blood pressure.[4]

In the United States, the idea of increased collaboration between pharmacists and physicians on patient therapy has been under discussion for several years.

Each of the 279 participants were allocated to either a nurse-led case management group or a pharmacist-led group to which each patient would go for a visit once a month for six months.[2,4] The nurse-led care consisted of checking each patient's systolic blood pressure and LDL levels, providing advice about lifestyle modifications to reduce cardiovascular risk, and reporting to the patient's primary care physician.[2,4] The nurses would also suggest that patients make follow-up appointments with their physicians as needed, but would not make the appointment on the patients' behalf.[3] Patients allocated to the pharmacist-led group received the same monitoring procedures, with the addition of new or modified prescriptions at the pharmacist's discretion. The pharmacist could initiate therapy, titrate doses, and add drugs according to a pre-established treatment algorithm if the patient's blood pressure or LDL levels remained uncontrolled.[2,3] It must also be noted that all changes or additions to a patient's medical therapy were carried out with the knowledge of the primary care physician, with whom the pharmacist would maintain contact.[2]

After six months of care, 43.4% of patients in the pharmacist-led group met the recommended targets for both blood pressure and LDL cholesterol, compared with 30.9% of patient in the nurse-led group, a statistically significant difference of 12.5%.[2,4] The quantitative benefit of pharmacist-led care was largely led by improvements in the proportion of patients who met the LDL targets, since "nearly two-thirds of participants were already at systolic BP targets at baseline, and patients in both groups had similar reductions in systolic blood pressure during the trial."[4] Among the reasons posed by study authors for the more significant results with LDL levels is a possible "ceiling effect" in blood pressure management, which is the idea that patients with controlled hypertension generally stabilize at a particular blood pressure level without much further decrease. Also suggested was a greater motivation among stroke survivors to monitor and control blood pressure than to control LDL, because of their greater understanding of the importance of the former.[4]

The study did have its share of limitations,

such as the small number of study participants, a problem made more significant as 27 patients withdrew from the study early, and the impossibility of the investigation being blinded.[2,4] Additionally, the six month span of the study was not enough time to conclude that pharmacist-led risk management actually translated to a reduction in future strokes or CV events, though the outcomes observed here were good predictors of such events.[2]

While the setting of this investigation was within the Canadian healthcare system, its researchers and authors contend that the results could be translated with relative ease to the United Kingdom's National Health Service or to integrated managed care organizations in the United States.[4] By allowing pharmacists to write and modify prescriptions with the goal of maintenance rather than cure, the patient care system tested by the University of Alberta seems to reduce the burden of these follow-up visits on primary care physicians. However, it may also represent a redefinition of practice boundaries that may be difficult for patients to adjust to.

In the United States, the idea of increased collaboration between pharmacists and physicians on patient therapy has been under discussion for several years. Pharmacists in many states have sought, and often won, legislative expansion of their professional roles, and New York State pharmacists are now taking up the cause. On September 14th 2011, a new law allowing the implementation of collaborative drug therapy management (CDTM) in a few teaching hospitals in New York State, went into effect.[7] As defined in the accompanying revision to state regulation on Pharmacy education, CDTM is the "performance of services by a pharmacist relating to the review, evaluation and management of drug therapy to a patient…in accordance with a written agreement or protocol".[8] This legislation created an environment for the evaluation of increased pharmacist input in drug therapy, much like the study at the University of Alberta.

After applying principles of CDTM to anticoagulation therapy, as well as to disease states including diabetes, heart failure, and HIV, the participating teaching hospitals transferred data on patient health and satisfaction outcomes to the New York State Education Department.[9] This data was then compiled into a powerfully convincing report on the overall benefits of such collaboration between pharmacists and physicians, for presentation to the New York State legislature.[9] (The report can be read at http:/www.op.nysed.govnews/cdtmreportmay2014final.pdf.)

The law that currently permits the practice of CDTM at selected teaching hospitals is set to expire on September 14th of 2014.[8] It is hoped that the positive results indicated in the Education Department's report will spur the creation of new laws, making CDTM a permanent and more expansive part of New York State healthcare. Such legislature would allow New York to follow in the footsteps of the 46 other states, and of our neighbor to the north, that are exploring expanded possibilities for pharmacists in enhancing patient care.[9]

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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?

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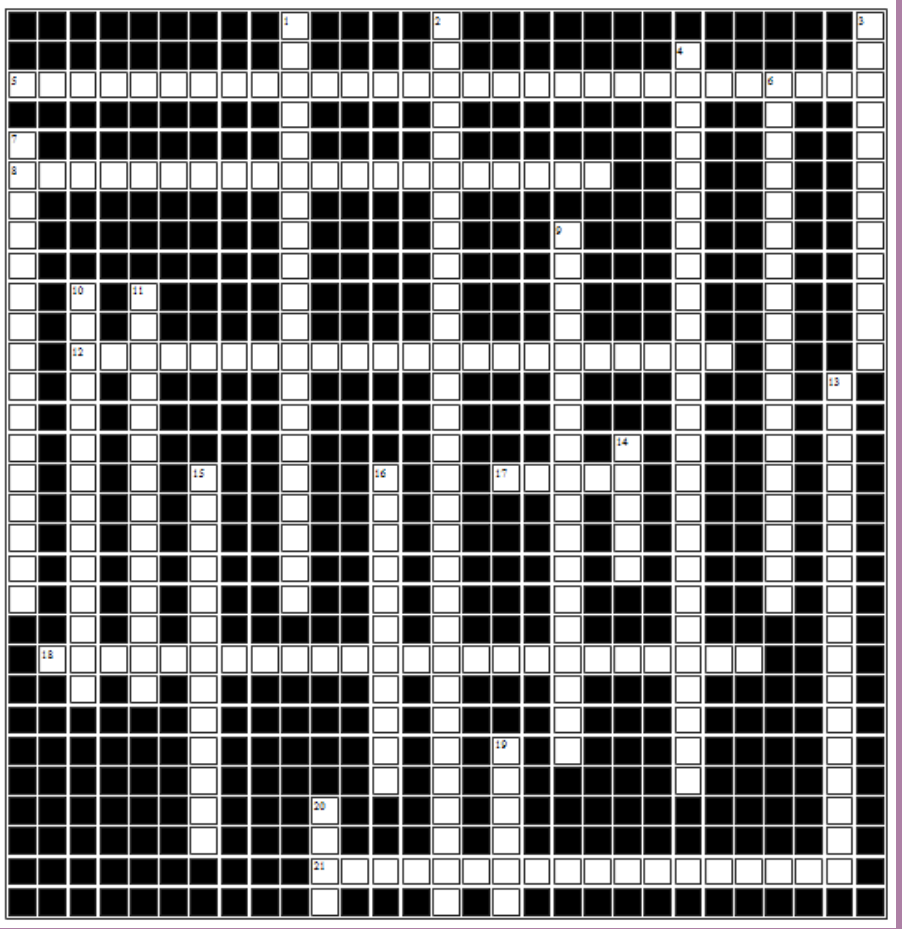
RHO CHI POST

Are You Smarter than a 6th Year?

Crossword Puzzle: Drug Top 200 Challenge

By: Tamara Yunusova, Senior Staff Editor

How well do you know the Top 200? For each generic name listed below, find the corresponding brand name in the puzzle. Note: This puzzle contains brand names only. Good luck!



Across

5. Aptiom
8. Ravicti
12. Trokendi
17. Invokana
18. Xgeva
21. Xiaflex

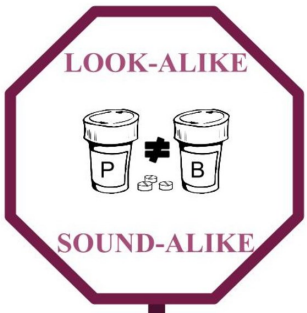
Down

1. Revlimid
2. Stivarga
3. Duavee
4. Fetzima
6. Simponi
7. Pomalyst
9. Tecfidera
10. Liptruzet
11. Varithena
13. Zubsolv
14. Tivicay
15. Kadcyla
16. Olysio
19. Injectafer
20. Breo Ellipta

PUZZLES

Answers

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

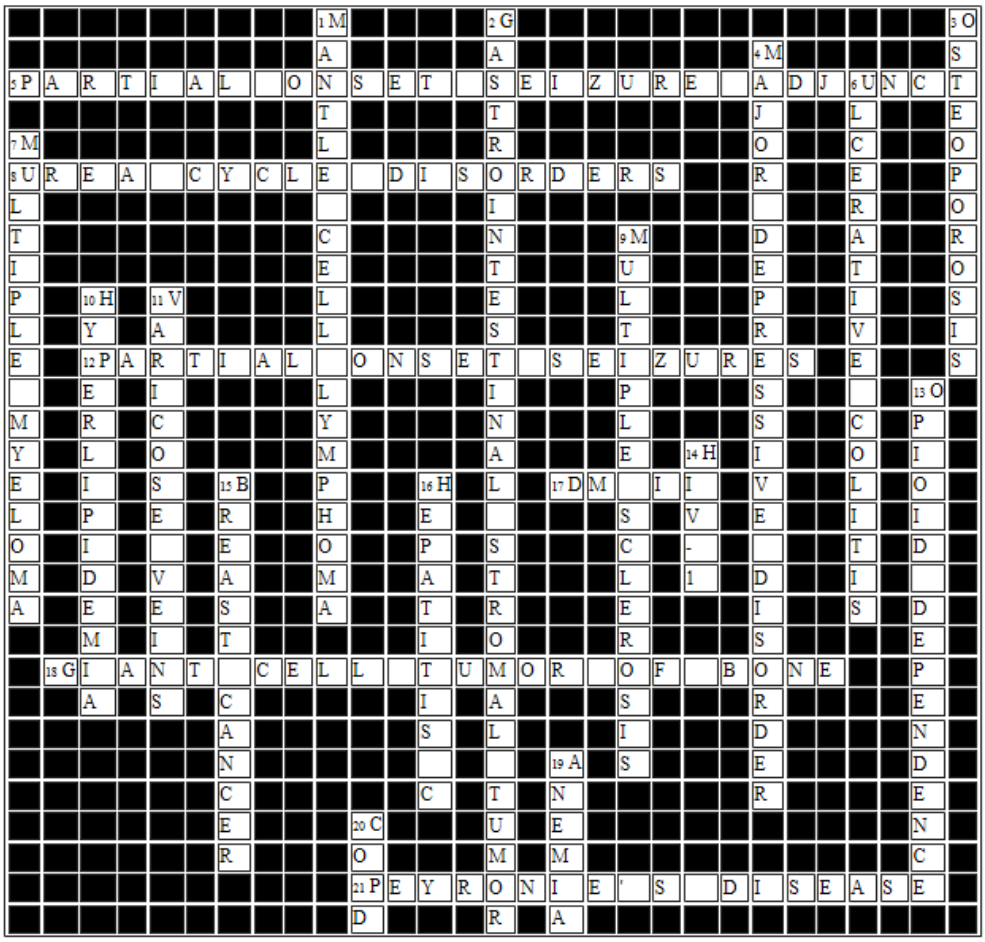
1. This drug belongs to the streptogramin class of medication and is used to treat MRSA associated with vancomycin failure	A. Quinapril
2. A benzodiazepine used to treat insomnia	B. Quetiapine
3. Use of rifamycins and cigarettes with aliskiren in patients with diabetes mellitus is contraindicated	C. Qvar
4. A Class 1 A antiarrythmic that can also be used in severe malaria	D. Qnasal
5. A medication used to treat allergic conjunctivitis	E. Quinidine
6. A corticosteroid nasal spray used for the treatment of allergic rhinitis	F. Quinine
7. Used to treat chronic weight management in patients with atleast one weight related	G. Quinupristin and Dalfopristin
8. The contraindication to this medication is hypersensitivity to bile sequestering agents	H. Quazepam
9. Used to treat schizophrenia and major depressive disorder and is associated with QT	I. Qysmia
10. An inhaled corticosteroid indi cated in asthma patients. The maximum daily dose is 320mcg twice a day	J. Questran

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

How Did You Do???

Answers to Crossword & Look Alike and Sound Alike

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



PUZZLES

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!

@ Aleena Cherian ***(PharmD, STJ; Co-Copy Editor [Graphics-Focused])***
The Rho Chi Post has been a source of current information and great advice to students and professionals in this evolving profession. After years of experience in media and graphics-related work, it is now my privilege to be a part of this endeavor as a Co-Copy Editor. I hope you learn as much from future editions of the newsletter as I have, and I welcome your feedback!

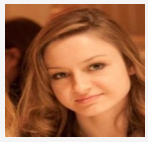
@ Melissa Roy ***(6th Year, STJ; Co-Copy Editor [Graphics-Focused])***
We as future healthcare professionals owe it to our patients and ourselves to become aware and current on the events affecting our profession. The Rho Chi Post is our way to learn new things and stay in touch with the pharmacy world, on- and off-campus. I have gained so much from reading previous publications and feel privileged to have the opportunity be a part of the team. 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.

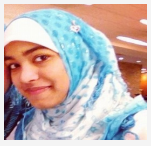
@Davidta Brown ***(4th Year, STJ; Senior Staff Editor)***
My two great loves are innovative science and quality writing, and the Rho Chi Post is an insightful combination of both. As an editor, I look forward to bringing relevant information and fresh perspectives to the student and faculty of St. John's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

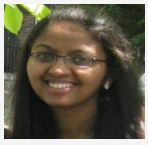


@ Ada Seldin ***(6th Year, STJ; Staff Editor)***
I am thrilled to have become a new member of the Rho Chi Post team. I hope to further strengthen the goals of this newsletter and make a lasting contribution. It is important, as future pharmacists, to collaborate with our peers, as well as accomplished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

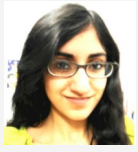
@ Sang Hyo Kim ***(3rd Year, STJ; Staff Editor)***
Advancements of technology and developments of new medicines, prolonging the lifespan and improving the quality of life, have increased the geriatric population. In years to come, pharmaceutical industries and healthcare systems will persistently work 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 Writer)***
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.



@ 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.



@ Azia Tariq ***(4th Year, STJ; Staff Writer)***
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.

@ *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

Sep 9– Board of Pharmacy Public Session
Albany, NY

Sep 10- NYCPS CE Event
East Elmhurst, NY

Sept 17-19: Current Topics in Healthcare: Series XIX
Las Vegas, NV

Oct 18-22- NCPA 2014 Convention
Austin, TX