



LA HEALTH-SYSTEM PHARMACIST

Newsletter of the Louisiana Society of Health-System Pharmacists

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www.lshp.org

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FROM THE DESK OF THE PRESIDENT

The Midyear LSHP Meeting held at Sam's Town in Shreveport was another successful event. We had approximately 130 attendees that participated in the various activities and continuing education programs. I'd like to give a special thanks to our Programming and Practitioner Education Committee that worked very hard to bring this meeting to Shreveport for yet another year. The members of that committee are Lois Anderson, Kelsey Trimble and David Loftin. I would also like to thank our presenters which included John Fanikos, MBA, RPh; Sheramie Verret, PharmD; Marlo Blazer, PharmD, BCOP; Elizabeth Perry, PharmD; Tibb Jacobs, PharmD, BCPS; Kenesha Pace, PharmD; Christopher Betz, PharmD, BCPS; Janay Woodard, PharmD; Nicholas Beyda, PharmD; Courtney Robertson, PharmD; Thaddaeus Wallace, PharmD; Gilda Jefferson, PharmD; and David Cluck, PharmD. Lastly, an extra special thanks to ASHP Advantage, Merck, Morris & Dickson and sanofi-aventis, the LSHP executive board, and Kati Craig and Bland O'Connor for their continued support.

In addition to member support, I would also like to recognize the students of the LSHP student chapter at the University of Louisiana at Monroe (ULM). Their chapter continuously participates and contributes support at both our midyear and annual meetings in Shreveport and in New Orleans. This year the chapter sold LSHP t-shirts and wall art that were decorated with original artwork designed by their chapter members. I wish you all much success with your fundraising efforts, and I look forward to seeing you all at the annual meeting in New Orleans.

Prior to the actual Midyear meeting, we also had a very successful board meeting. There was great representation by each committee, and I can assure you that each has been working very hard to strengthen our organization. The Public Policy Committee is in sync with the ASHP Government Affairs initiatives and they have been following all of the various changes in health-care reform. Both on a national and state level, pharmacy representatives have been consistently and strongly representing the best interest of pharmacists and our profession in Washington at each step of the legislative process. The Programming and Practitioner Education Committee has also been working very hard in coordinating our upcoming Annual Meeting for 2010 in New Orleans from May 27 through May 29, 2010 at the

Hilton Riverside. They've been working with several sponsors and potential speakers in an effort to bring you a very interesting program. There will be programming of interest to students, technicians, and pharmacists. The Membership and Marketing Committee is also currently working on a variety of ways to increase membership in LSHP as a new year is quickly approaching. They have been diligently working on ways to retain membership and to attract new members. Please contribute to their efforts by inviting pharmacists and technicians to become a part of LSHP.

On the house-keeping side, our membership renewal forms have been slightly modified to bring the forms up-to-date with new LSHP processes. Also, beginning in spring 2010, LSHP is proud to announce that we are "Going Green"; the LSHP newsletter will only be distributed electronically. Members who would like to continue to receive a hardcopy will have the option to choose this on their renewal forms.

The ASHP Midyear Clinical Meeting in Las Vegas is approaching very quickly. The dates of the meeting are from December 6th through the 11th; it's not too late to make plans to go. For those who can't attend, I will provide you with any pertinent information in the next newsletter.

In closing, as the holidays approach, I wish you and your families a safe and happy holiday season and wonderful New Year.

Sincerely,

Keturah Robinson, PharmD, BCPS
LSHP President

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Attention LSHP Members:

Dues Renewals will be mailed soon. Please keep an eye on your mailboxes so that your due renewals can be returned promptly.

New this year!

It is imperative that we have a current email address on file for you. Beginning with the next issue, the ***La Health-System Pharmacist*** will be **delivered electronically only** unless you opt on your dues renewal to receive a hard copy. Also, the **election** of board members this year will take place **exclusively online**.

Please be sure when you send back your dues renewal that your email address is present and correct.

Thank you!

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Please send article submissions to the newsletter editor, Dana Jamero, via email at djamero@xula.edu.

Proton Pump Inhibitors and Clopidogrel (Plavix®): A Dangerous Combination?

Elizabeth Perry, Pharm.D.

Many health professionals and patients may be catching wind of a potentially alarming drug interaction that has been uncovered in recent months involving proton pump inhibitors and clopidogrel (Plavix®). The big question on everyone's mind is, just how bad is it?

Clopidogrel is a thienopyridine antiplatelet agent commonly used in the management of post myocardial infarction, stroke, or stent placement to reduce the risk of recurrent thrombosis and death. Clopidogrel is administered as a prodrug which is converted to its active metabolite by hepatic cytochrome P450 enzymes. The active metabolite of clopidogrel blocks the binding of ADP to the P2Y₁₂ receptor which inhibits downstream activation of the GPIIb/IIIa receptor and platelet aggregation. Proton pump inhibitors are substrates and inhibitors of cytochrome P450 enzymes CYP2C19 and CYP3A4, which are two of the major isoenzymes responsible for the conversion of clopidogrel to its active metabolite. Inhibition of the cytochrome P450 enzymes by proton pump inhibitors potentially reduces the available active metabolite of clopidogrel which may lead to decreased efficacy¹.

Studies have shown that as many as 30-65% of patients taking clopidogrel are also prescribed proton pump inhibitors¹. This does not include patients taking the over-the-counter proton pump inhibitor, Prilosec®. In 2007, both the American College of Cardiology and American Heart Association recommended prescribing PPIs to patients who are taking dual antiplatelet therapy with clopidogrel and aspirin for prophylaxis of GI bleeding¹. The potential seriousness of this interaction is compounded by the number of patients that could be affected.

A study published in 2008 evaluated cardiovascular outcomes in patients undergoing coronary artery stent placements who were taking both clopidogrel and omeprazole². The primary endpoint was platelet reactivity as indicated by the platelet reactivity index (PRI), which is inversely related to the efficacy of clopidogrel. A PRI >50% corresponds to a "poor responder" to clopidogrel. Results from this study demonstrated that 60.9% of patients in the PPI treatment group had a platelet reactivity index of greater than 50%, or poor response, compared to 26.7% in the placebo group (p<0.0001).

Results from this study reinforced the need for data examining the clinical outcomes in patients concomitantly taking proton pump inhibitors and clopidogrel. Published in March 2009, a retrospective study of 8205 patients discharged from VA hospitals with ACS and clopidogrel evaluated combined end points of all-cause mortality and rehospitalization for ACS³. VA pharmacy outpatient records were used to judge whether patients were taking proton pump inhibitors. Upon discharge 63.9% of patients were prescribed a PPI and clopidogrel. Results showed that 20.8% of patients taking clopidogrel without a PPI died or were rehospitalized for ACS compared to 29.8% of people who were taking both medications (OR 1.25, 1.11-1.41). PPI patients also had significantly greater need for revascularization procedures. The duration of exposure to the combination was significant with each 10% increase in time correlating with an increased risk of death or rehospitalization. The majority (59.7%) of patients were prescribed omeprazole in this study, and only omeprazole and rabeprazole had sufficient numbers to detect an association.

The most recent data, presented as an abstract at the Society for Cardiovascular Angiography and Interventions (SCAI) meeting in 2009 includes the preliminary results of the Clopidogrel Medco Outcomes Study⁴. This large study examines the effect of individual PPIs on the risk for hospitalization for major cardiovascular events or MACE (MACE=myocardial infarction, unstable angina, transient ischemic attack/stroke, coronary revascularization, or cardiovascular death) over one year in 16,690 patients adherent to clopidogrel after coronary stenting. Preliminary results show that the overall risk for MACE was 51% higher in patients on any PPI (25.1%) vs. no PPI (17.9%). This included a 70% increase in the risk of myocardial infarction and a 48% increase in the risk for stroke or TIA. Each PPI agent was associated with an increased risk of MACE: omeprazole [HR 1.39 (1.22-1.57), p<0.0001], esomeprazole [HR 1.57 (1.40-1.76), p<0.0001], pantoprazole [HR 1.61 (1.41- 1.88), p<0.0001], lansoprazole [HR 1.39 (1.16-1.67), p=0.0004]. The data also shows that the incidence of hospitalization

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for upper GI bleeding was only 1.1% among patient taking a PPI and 0.07% among those not taking a PPI.

Although this data is compelling, it must be interpreted cautiously. The study designs are sub-optimal for predicting causation and many of the PPI treated patients were “sicker” than those not treated with PPIs. Therefore, more evidence is needed.

In opposition to the two previous studies, a re-analysis of the Clopidogrel for the Reduction of Events During Observation (CREDO) trial found that clopidogrel reduced incidence of MI/death/revascularization similarly between groups treated with or without PPIs¹. The authors also reported that the incidence of cardiovascular outcomes was higher among patients prescribed PPIs regardless of the antiplatelet agent utilized.

Lastly, Lancet recently published an article which re-examined the results of two randomized controlled trials, PRINCIPLE-TIMI and TRITON-TIMI, which were initially completed to assess the efficacy of the new thienopyridine agent, prasugrel. The trials were reanalyzed to determine the effect of PPIs on both platelet inhibition and clinical outcomes⁵. The primary outcome assessed in the PRINCIPLE trial was platelet inhibition determined by ADP induced aggregometry. Patients taking the combination of PPI and clopidogrel had significantly less inhibition of platelet aggregation and thienopyridine hyporesponsiveness was more than six-fold higher among patients on proton pump inhibitors (p=0.012). Patients on prasugrel also had significantly less inhibition of platelet aggregation, although hyporesponsiveness was rarely seen regardless of PPI use. The primary outcome assessed in the TRITON trial was a composite outcome of cardiovascular death, non-fatal myocardial infarction, and non-fatal stroke. Thirty-three percent of patients were prescribed proton pump inhibitors at the discretion of the physician. Use of a PPI did not significantly affect the rate of primary outcome in either clopidogrel or prasugrel treated patients. The results from these trials suggest that while PPIs do inhibit the in-vitro antiplatelet effect, this is not translated into reduced clinical efficacy.

As the data available on this drug-drug interaction is contradictory the FDA and SCAI have issued some recommendations regarding concomitant use of PPIs and clopidogrel while awaiting further studies^{6,7}. Physicians should consider alternative agents for GI prophylaxis in patients on dual

antiplatelet therapy, like H₂ antagonists or antacids. It is also recommended that physicians re-evaluate the indication and need for a PPI in any patient before prescribing and patients should consult their doctor before taking OTC Prilosec®.

Proton pump inhibitors have been considered benign agents and their use has become extensive in hospitals and outpatients worldwide. Until more data becomes available on the interaction between clopidogrel and PPIs, caution is advised in prescribing these agents concomitantly.

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Southeast Chapter Update

Linda Mihm

Southeast LSHP Chapter President

As we are approaching the end-of-the-year, I would like to thank all of our members for their continued support of our chapter. Funding from the drug companies has been difficult to obtain but they did provide us with dinner meetings in September with a presentation on Antifungals and in October on Diabetes. The chapter has been able to provide six CE programs this year and save on cost by having several of them at Xavier University. The first CE, which was held in February, was on Pediatric Medication Adherence. The other CE programs were held in April on Obesity; June, Pharmacy Automation; August, Sleep Apnea; and October on Migraines. We have a CE program planned for November on Diabetic Neuropathy.

I wanted to acknowledge and thank the speakers who have provided our CE presentations: Jonathan Bost and Drs. Joseph LaRochelle, Keturah Robinson, Cori Brock, Ashley Taylor and Ariane Conrad; and the drug companies, Astellas and Lilly for their dinner programs. I would also like to thank Kati Craig and our current President-elect, Dr. Ariane Conrad, for all their support this year. Having had this position and knowing the amount of work it involves, I would like to extend a special thanks to our secretary/treasurer, Dr. Teresa Nash; she has been a tremendous help this year with setting up the food for our meetings at Xavier.

North Chapter Update

Kelsey G. Trimble, Pharm.D.

NLSHP Chapter President

The North Chapter experienced a very exciting and productive year. We were able to offer six different CE's to our members. They included: "Prescription Monitoring Program" by Joe Fontenot, "Pharmacology of Drugs Used in the Treatment of Rheumatoid and Osteoarthritis" by Holly Breaux, Pharm.D., "Neonatal Drug Withdrawal- Remnants of Drug Use During Pregnancy" by Hilary Tice, Pharm.D., "ESA Hyporesponsiveness in Hemodialysis Patients" by Mandy Ranzino, Pharm.D., "Multiple Myeloma" by Mike Cockerham, Pharm.D and "Treating Snake Bites in 2009" by Mark Ryan, Pharm.D. We would like to thank all of

our speakers for their time and effort.

We are accepting nominations for our upcoming elections. Mandy Ranzino, ULM professor at the Shreveport Campus, will be our chapter president for 2010. Recently, we created an e-mail account to allow us to send information to our members. If you would like to contact the North Chapter the email address is: nlshp@hotmail.com. We are already working on meetings for the spring. We encourage you to send in your renewal forms and we look forward to seeing you in 2010.

Attention LSHP Members Attending the ASHP Midyear Clinical Meeting in Las Vegas in December:

You are cordially invited to attend a reception and poster session that will display the outcomes study analyses from the educational initiative "*Zero Tolerance for Failure: Pharmacists Fight Back!*" The live symposium was held at eight state societies of health-system pharmacists annual meetings throughout 2009, including LSHP. The outcomes measures included pre- and post-activity surveys as well as a series of Clinical Pearls e-mails. The outcomes study was designed and implemented in conjunction with the Society of Infectious Diseases Pharmacists (SIDP) and each State SHP. The overview and the results of these efforts will be showcased in a series of posters presented with the assistance of several of the faculty members from the live symposia.

The reception will take place at the **ASHP Midyear Clinical Meeting & Exhibition on Monday, December 7, 2009 from 5:30 - 7:30 PM in Las Vegas, Nevada at the Venetian/Congress Center (Galileo Room 905)**. We welcome all to join us for refreshments and for the opportunity to discuss the results from this initiative with faculty and colleagues from SIDP and fellow State SHPs. Registration for this event is not required and is open to any attendee at ASHP. . This will provide an excellent opportunity to showcase your efforts in helping to implement educational intervention that addresses the challenges of clinical pharmacists when managing hospital-acquired infections.

For more information, please visit: <http://www.vemcomeded.com/livemeetings.asp>

Evolution of the Role of Pharmacists in Vaccinations

David Cluck, Pharm.D.

Pharmacy Practice Resident, LSUHSC Shreveport, LA

Influenza and pneumonia are the 8th leading cause of death in the United States today (down from 4th). This only stands to fall as all 50 states are now allowing pharmacists to administer vaccinations.

The role of pharmacists in vaccinations has been evolving since as early as the 1800s. Pharmacists' involvement in vaccinations has substantially progressed since that time. The "immunization movement" around the early 90's is largely attributed to the pressing need to increase childhood immunization rates. In 1993 the American Pharmacists Association (APhA) was successful in getting the Department of Health and Human Services (DHHS) to officially recognize that pharmacists were able to assist in four broad areas: vaccine education and mobilization, vaccine distribution, vaccine access and administration, and vaccine registries and tracking systems. A national training program (APhA Immunization Certificate Training Program) was formed soon after the Mississippi Department of Public Health requested that pharmacists help with the low rates of immunization in the state. The program has resulted in approximately 60,000 pharmacists being eligible to provide immunizations.

The expanded role pharmacists play in healthcare today is a product of easy accessibility as well as the public perception of pharmacists as one of the most trusted health care professionals. Studies have indicated that the contribution of pharmacists to vaccination programs has resulted in a significant decrease in vaccine-preventable illness and death across the nation. As of this fall, all 50 states have given pharmacists authority to vaccinate with requirements and eligibility varying among states.

Overview & Rationale for Protocol

The impending 2009 influenza season has presented healthcare professionals with a new challenge. The emergence of the H1N1 strain ("swine flu") is considered a significant public health threat and thus created an immediate need for mass vaccination. This concern was primarily responsible for the few remaining states that did not allow pharmacist-administered vaccination to pass legislation to include pharmacists in the vaccination effort. The increased number of shots required (both seasonal and H1N1) as well as the overall number of patients needing vaccination undoubtedly places a time strain on practitioners. The utilization of pharmacists would free up manpower and resources (eg physicians) and will also seek to "get ahead" on the dissemination of [herd] immunity before the flu season reaches its pinnacle.

Louisiana has allowed pharmacists to administer vaccines for several years, but required a prescription from a healthcare provider to do so. In late September, the office of public health in our state issued a protocol for the administration of influenza vaccine(s) by eligible pharmacists. In addition to the credentialing requirements, pharmacists who administer immunizations under this protocol are required to enter the data into the Louisiana Immunization Network for Kids Statewide (LINKS) database. To date approximately 500 pharmacists have obtained the credential to administer immunizations in the state of Louisiana.

While the current "swine flu" pandemic has increased the demand for immunizations this year, pharmacists can also play an important role in other vaccine-preventable diseases. Pharmacists are encouraged to continue these efforts to expand their practice in this area.

Xavier Student Chapter Update

Mia Incaprera

Xavier LSHP Student Chapter President

As the semester is nearing the end, our chapter is reflecting on what we have accomplished since August, and finalizing plans for next semester. We stand 80 members strong and have done some outstanding community service projects and learning activities this semester. Unfortunately, we were unable to attend the LSHP midyear meeting due to one of our service projects being scheduled on the same date, but were filled in on many of the great things by our faculty who were present.

We held our annual Clinical Skills Competition just a few weeks ago, and were able to award the winning team registration to the ASHP Midyear meeting as well as assistance with travel!! The competition was very close, but we are pleased to announce that John Andry and Nicole Gonzales won and are looking forward to LAS VEGAS in December!!!! Our chapter is so pleased with the response to this competition and so thankful that we are able to provide our winners with assistance for

midyear. Another one of our members will be representing Xavier at ASHP Midyear and LSHP Annual meetings with a poster presentation on influenza and H1N1. We are so proud of our members and their hard work!

Our final meeting of the semester is approaching; Dr. Camtu Ho will be our guest speaker focusing on residencies. This is always one of our bigger meetings filled with lots of questions and excitement. As the field of pharmacy grows, it is becoming evident a residency can only benefit us and prepare us to provide the best patient care.

We would like to thank our members for being so involved in all of our community service and learning projects. I hope everyone gets to enjoy the short holiday break, rest up, and prepare for the challenge again next semester.

Happy Holidays from the Xavier University LSHP family to yours!

ULM Student Chapter Update

Monica Morgan

ULM LSHP Student Chapter President

As the semester winds down, we are all looking forward to the upcoming holiday season! Our chapter has managed to stay busy throughout this fall semester. We were taught about career opportunities at the LA Poison Control Center, the ins-and-outs of a residency program, and have continued supporting the “green movement” through our successful recycling project. We are also currently developing an educational program for local elementary school students to make them aware of common harmful substances in the household that may be mistaken for edible food sources. Two of our fourth year LSHP members, Kristian Fruge and Mandy Fillingame, will represent the ULM College of Pharmacy in the National Clinical Skills Competition at the ASHP Midyear Meeting in Las Vegas in December, as they were the winners of our local competition held at the pharmacy school. On behalf of the students who attended the LSHP Midyear Meeting in Shreveport, I would like to thank all of those involved for having us at the meeting. We all learned much from the seminars and thoroughly enjoyed meeting and speaking to our future colleagues. Lastly, I would like to express our gratitude to all of you who participated in our fundraiser, as it was a huge success and will enable us to assist students in attending future meetings and participate in more events throughout the year.

