



LA HEALTH-SYSTEM PHARMACIST

Newsletter of the Louisiana Society of Health-System Pharmacists

Editor: Dana Jamero djamero@xula.edu

www.lshp.org

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FROM THE DESK OF THE PRESIDENT

I am pleased to report that there was an excellent turnout of officers and committee members attending the LSHP Strategic Planning Retreat and Board of Director's Meeting in Woodworth on August 24th and 25th. In addition to a full contingent of state officers and regional representatives, we were pleased to have in attendance the pharmacy student chapter leaders from both Xavier University and ULM. I would personally like to thank each and every one of you who attended.

One of the high points of the meeting was heralded in a report from our Executive Director, Bland O'Connor. The report indicated that the Annual LSHP Meeting held in May this year garnered some \$62,000 in profits for the Society and was attended by a near record of over 180 registrants. Our profitability on this meeting was in large part due to the efforts and tenacity of Helen Calmes and Mathew Thomas in attracting 58 exhibitors for the meeting and also in writing grants for numerous programs and activities at the meeting. Please let them know how much we all appreciate their work on behalf of LSHP. We also owe Kati Craig and Bland O'Connor enormous thanks for working diligently on our behalf. They not only secure funding, but also handle the logistics and administrative support in making the exhibitions successful for both the vendors and our membership. How can you help when you attend meetings? Please visit all the vendors, thank them for supporting our professional society, and offer special thanks for their promotional items. Speaking of which, "freebie pens, clocks, zingers, and other gizmos" appear to be a thing of the past beginning in 2009. These items will be going the way of pharmaceutical manufacturers offering their own CE programs i.e. no longer available. It is incumbent upon us to visit these wonderful folks who strongly support our meetings. LSHP will still offer the door prizes for those members who faithfully visit all the booths, and we expect to increase the number of incentives (prizes)! We also may include an "informational scavenger hunt" as an integral part of the process next year.

One of the concerns discussed at this strategic planning meeting involved LSHP active memberships. Our society has been unable to grow active memberships since Hurricane Katrina hit Louisiana. There have been a number of possible reasons placed forward. I believe the largest ones are that we have not actively marketed membership "one on one" to potential members, and that we have not involved enough new members in the work of the society to retain their membership. It is my resolve to involve our committee memberships, state officers, and affiliate officers in a campaign to grow membership for 2009. Secondly, I have seeded our LSHP Committees with new members that have

expressed interest in working with the society. Letters of appointment to both Committee Chairs and Committee Members will be going out this week. A third reason for lack of membership growth may be due to the fact that a number of our regional chapters are having difficulty hosting live continuing education programs. As the past president of NELSPH, I have seen first hand the impact PHARMA guidelines have had on the ability of chapters to secure financial support for CE programming at the local level. The processes for securing both educational grant funds and ACPE approved CE programming have become more involved in terms of the application and reporting procedures. Time frames for successfully planning these programs have escalated from 31 days to upward of 45 to 90 days of preparation. It is the intent of LSHP to offer a short program on ACPE programming applications and educational grant submissions for our chapter affiliate officers. This program has been scheduled for Friday October 10th, as a follow-up to our regular Board of Directors Meeting to be held that Friday morning. We would like to strongly encourage all chapter officers involved in CE programming to attend this brief primer. LSHP in the very near future may need to begin offering training in Webinar or compressed video CE programming for chapter affiliate usage. LSHP also plans to create a "toolbox" of resources on its website to assist both State and Chapter LSHP officers in finding and writing successful educational grants.

Please mark your calendars and plan to attend the LSHP Midyear Meeting in Shreveport during the Red River Revel. We look forward to seeing you on October 11th.

Kindest regards,

Marty Steffenson, Pharm.D.
LSHP President



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**To register:**

Brochures have been mailed and are also available for download on the LSHP website, www.lshp.org.

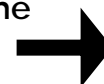
Don't miss Friday's events!

Join other LSHP members for a welcome reception Friday, Oct. 10 at Sam's Town before heading out to the Red River Revel.

Hotel Information:

Call Sam's Town Hotel & Casino at (877) 429-0711 to stay at the conference hotel.

For more information on the program, see page 3.

**LSHP Bimonthly Newsletter****LA HEALTH-SYSTEM PHARMACIST****Publisher Information**

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



The 2008 LSHP Midyear Meeting Schedule at a Glance

Saturday, October 11, 2008

- 
- 7:00-7:45 A.M. **Registration/Continental Breakfast**
- 7:45-8:00 A.M. **Welcome & Announcements**
- 8:00-9:00 A.M. **Automation Pharmacy Processes Containing Costs**
Warren Wood, PharmD
- OR **Anemia**
Robin Covey, PharmD
- 9:00-10:00 A.M **Vaccination Update**
Ann Wicker, PharmD
- OR **Therapeutic Options for Patients with Parkinson's Disease**
Lindsey Orchard, PharmD
- 10:00-11:00 A.M **Improving the Quality of Antithrombotic Therapy through the Use of
National Performance Measures**
Karen Fiumara, PharmD
- OR **Osteoporosis: Filling in the Cracks**
Meredith Smith, PharmD
- 11 A.M. -1 P.M. **Lunch and Exhibits**
- 1:00-2:00 P.M. **Renal Cell Carcinoma**
Heather Cox, PharmD
- OR **Updated Medical Management of Pulmonary Arterial Hypertension**
Hazel Lam, PharmD
- 2:00-3:00 P.M. **Treatment of Hypertension in Pediatrics**
Kelsey Green, PharmD
- OR **Improving Medical Safety with Anticoagulation Therapy**
Holly Breaux, PharmD
- 3:00-4:00 P.M **ICU Nutrition Case Presentation**
Charlie Jastram, PharmD
- OR **Asthma- Taking Control**
Emily Ortego, PharmD
- 4:00-5:00 P.M. **Complementary and Alternative Medicine in Women's Health**
Brice Labruzzo, PharmD
- 

ULM Student Chapter Update

Kristian Fruge'

ULM Student Chapter President

I hope this newsletter finds everyone safe and sound after a busy couple of months. In case some of you are unaware, we have combined our student chapters of LSHP, APhA-ASP, and NCPA under one organization and we are known as the Louisiana Student Pharmacists Alliance (LSPA). With a new umbrella organization comes new challenges, and I feel that our executive committee is one of the best and will rise to the challenge and set a new bar here at ULM. We had our first general meeting for LSPA in late August and it was a great success. We have lots of new members that seem very eager to participate.

We are currently signing up members to attend the LSHP midyear meeting in Shreveport and everyone that is planning on attending is very excited and eager to network and

see what LSHP is all about! We have some exciting events planned early in the semester. On September 30th, we have planned a professional development seminar for the ULM College of Pharmacy concerning Emergency Preparedness. The speaker will be W. Knox Andress, RN, FAEN, Emergency Preparedness Director at LSU-HSC Shreveport. This will help us be better prepared for future disasters. We will also be beginning our "brown bag" events at a local senior center in September. This gives us a chance to interact in the community and also promote our organization and also OUR profession! As the semester continues, we will have many more events to come. We are very excited about this year at ULM and can't wait to see you in Shreveport!!!

Northeast Chapter Update

Jessica Brady, PharmD

Northeast Chapter President

The Northeast Chapter of LSHP will conduct its first Fall meeting on October 23, 2008 at the ULM College of Pharmacy Bienville building. A continuing education program concerning smoking cessation approaches for patients will be presented by Justin Sherman, Pharm.D. A business meeting will also take place to discuss minor changes to the NELSHP

Constitution.

A second Fall meeting will be held on November 20, 2008 and will include a continuing education program addressing issues in pharmacy education across the United States.

LSHP Joins National Initiative to Bolster Education, Training Requirements for Pharmacy Technicians

The Louisiana Society of Health-System Pharmacists (LSHP) recently signed on to a national initiative that is pushing for state laws that will produce a well-trained pharmacy technician work force and help ensure that patients receive safe and effective medication therapy.

LSHP joined the Pharmacy Technician Initiative, a program sponsored by the American Society of Health-System Pharmacists (ASHP), a 35,000 member national professional association that represents pharmacists and pharmacy

technicians who practice in inpatient and outpatient settings. As part of the Initiative, LSHP will push for state laws that require, as a prerequisite for registration with the state board of pharmacy, completion of an ASHP-accredited pharmacy technician training and certification by the Pharmacy Technician Certification Board.

ASHP will work with LSHP to assess the state's existing legislation and regulations, and offer model language for new laws.

National Pharmacy Week October 19-25, 2008

Strategies for success courtesy of ASHP:

- 1. Talk to Your Administrator(s).** Explain the goals and the patient education benefits of National Pharmacy Week to help build teamwork.
- 2. Set a Goal.** Choose activities that will best help you achieve your objectives. If you'd like to build a better rapport with other health professionals in your health system, try hosting a pharmacy tour for the hospital staff. Or perhaps you'd like to focus on educating patients about safe medication use.

- 3. Get the Word Out.** Make sure that people know about Pharmacy Week and the activities you have planned. Use bulletin boards and internal e-mail systems to communicate with hospital staff. Spread the word to patients using notes on meal trays, announcements on the public address system, or with personal room visits. Publicize community events advance with notices at libraries and grocery stores and announcements in local papers.
- 4. Pat Yourself on the Back!** Pharmacy Week is also a great time for pharmacy staff appreciation events. Present your colleagues with tokens of appreciation. Don't forget your technicians!

Re-initiating Anti-psychotic Therapy after Neuroleptic Malignant Syndrome

Briony Williams, Pharm.D. Candidate and Mary Gauthier-Lewis, Pharm.D.

Neuroleptic malignant syndrome (NMS) is considered a life threatening neurological disorder characterized by a decrease in dopaminergic activity within the central nervous system (CNS). It is considered an idiosyncratic adverse reaction caused by various anti-psychotic medications (typical and atypical) or non-neuroleptic medications (e.g. metoclopramide, amoxapine, lithium, and dopaminergic medications used in the treatment of Parkinson). Atypical anti-psychotics pose less of a risk for the development of NMS. NMS is fairly uncommon in the general population; however, about 0.01% – 2.2% of patients taking anti-psychotic medications experience clinical features associated with this disorder.

NMS is associated with the blockade of dopamine (D2) receptors in the hypothalamus, spinal cord, and nigrostriatal pathways. The blockade subsequently results in impaired temperature regulation (increase in body temperature) and muscle rigidity. NMS is also characterized by muscle cell breakdown and activation of the sympathetic nervous system, which leads to elevated circulating catecholamine levels. The clinical course of NMS usually follows initiation of therapy or an increase in dose of the offending anti-psychotic agent. Symptoms may also occur after multiple changes from one anti-psychotic to another or upon discontinuation of anti-parkinson medications such as levodopa. Although signs and symptoms can occur at any time during therapy, most patients experience abnormalities within the first ten days. The initial reaction may occur hours or weeks upon initiation of therapy.

The classical features associated with the disorder include: muscle rigidity, hyperthermia, fever, mental status changes, and autonomic instability (e.g. unstable blood pressure and heart rate). Precautions should be taken in ruling out other disorders with a similar presentation such as serotonin syndrome, malignant hyperthermia, seizures, and brain trauma, which are accompanied by non-specific symptoms.

A step-wise approach to treating NMS includes prompt recognition of the disorder, withdrawal of the offending agent, attempts to rule out other conditions, supportive care, and specific pharmacologic management. Supportive care includes fluid resuscitation to correct volume depletion and hypotension along with thermoregulation such as cooling blankets or antipyretic agents. Additional pharmacologic therapy consists of dopamine agonists and skeletal muscle relaxants. Although there are no controlled studies to date, dopamine agonists, bromocriptine, amantadine, and the levodopa/carbidopa combination have been shown to decrease mortality and the severity of the NMS episode by reversing the D2 receptor blockade. Dantrolene, a skeletal muscle relaxant, appears to increase mortality when used as monotherapy in NMS. Dantrolene is used to treat hyperthermia and muscle rigidity; however, it should be used in combination with other agents specifically bromocriptine for treating NMS. It is better to start both drugs at the same time with intravenous Dantrolene and oral bromocriptine. Once symptoms begin to resolve the Dantrolene can be discontinued and the oral bromocriptine maintained.

Anti-psychotic therapy may be reintroduced after an NMS episode; however, clinicians should use caution and titrate gradually following a recommended test dose. A waiting period

of two weeks should be used for oral medication and at least six weeks for parental medication. Therapy must be initiated slowly to monitor for signs and symptoms of NMS. Since atypical anti-psychotics are associated with a decreased incidence of NMS, changing to an atypical neuroleptic may be more beneficial. The drug of choice for reintroducing anti-psychotic therapy is clozapine (Clozaril®) due to the lack of dose-related extrapyramidal side effects and its reduced affinity for D2 receptors. Clozapine has a greater affinity for dopamine (D1) receptors, and therefore does not illicit the profound involuntary movements seen with other anti-psychotics. Clozapine exhibits its anti-psychotic effect through dopaminergic, serotonergic, and anticholinergic effects. The mechanism by which clozapine improves movement disorders is unclear; however, there are supportive trials that highlight clozapine as an essential agent for the treatment of refractory schizophrenia and movement disorders especially if associated with Parkinson's. In addition, it is very important to initiate therapy slowly at doses lower than those conventionally prescribed for schizophrenia.

Although clozapine is not a first line agent in the treatment of schizophrenia, it is the anti-psychotic of choice used to re-challenge those patients that have experienced an episode of NMS. Patients receiving clozapine must also be enrolled in a limited distribution program and comply with all conditions due to an increased risk of life-threatening agranulocytosis. Clozapine is not characterized by dose-related extrapyramidal side effects, as it has a reduced affinity for dopamine D2 receptors. D2 receptor blockade is considered the essential mechanism associated with neuroleptic malignant syndrome. NMS is considered a severe adverse reaction due to decreased dopaminergic activity, which causes muscle rigidity, mental status changes, and hyperthermia. Withdrawal of the offending agent, use of a different neuroleptic, supportive care, and disease state management are the principal tasks associated with responding to the reaction and increasing the patient's quality of life. It would be prudent to use a different neuroleptic than the one that originally caused the syndrome.

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Update: Black Box Warnings for FDA-approved Antiretrovirals

Tina Edmunds-Ogbuokiri, PharmD, FASCP

Adverse drug reactions (ADRs) continue to be a leading cause of death all over the world and in the United States. A major factor that contributes to the increased risk of ADRs after drug approval by the Food and Drug Administration (FDA) is the fact that drugs are studied in selected populations for limited periods of time. In HIV infection, this period has been shortened because of the so-called “fast-track” approvals carried out in order to make these agents quickly available for the treatment of this deadly and incurable disease. While expediting the availability of new medications for treatment of HIV-infected patients (who often have limited options) through this fast-track process, it becomes necessary that post-marketing surveillance strategies remain in place to provide data on adverse drug events that may be reported when the drugs become available to a wider population of patients and providers. Such new data are often brought to the attention of providers and patients through the “black box warnings.”

The so-called “black box” is a prominently displayed boxed warning added to the labeling of drugs or drug products by the FDA when serious adverse reactions or special problems occur, particularly those that may lead to death or serious injury. Derived from both clinical trials data and post-marketing surveillance data, black box warnings are an important part of how the FDA evaluates, communicates and manages drug benefits and risks and conveys these findings to healthcare providers for optimal medication management in all patients, including HIV-infected patients. The intent of this article is to review and update the black box warnings of antiretroviral agents, as presented through the Department of Health and Human Services Guidelines of May 2006, in the treatment of adults and adolescents with HIV infection.

Warnings associated with the non-nucleoside reverse transcriptase inhibitors

Nevirapine (Viramune) is the only non-nucleoside reverse transcriptase inhibitor that carries pertinent black box warning information in its product labeling. The indication and usage section now recommends against using this drug in women with CD4+ cell counts > 250 cells/mm³ (and men with CD4+ cell counts > 400 cells/mm³) at the time of initiation of the drug, unless the benefit far outweighs the risks. This recommendation is based on higher observed risk of serious liver toxicity in patients with higher CD4+ cell counts prior to initiation of therapy. Females have a three-fold higher risk of symptomatic liver toxicity than males and females with CD4+ cell counts > 250 cell/mm³ have a 12-fold higher risk of symptomatic liver toxicity than females with CD4+ cell counts of < 250 cells/mm³. In addition, the revised package insert now includes literature given to

patients to inform them about the risk associated with use of nevirapine in the treatment of HIV infection. The May 2006 guidelines specifically state as follows: “Severe, life-threatening, and in some cases fatal hepatotoxicity, including fulminant and cholestatic hepatitis, hepatic necrosis, and hepatic failure, has been reported. Patients may present with non-specific prodromes of hepatitis and progress to hepatic failure. Women with CD4 counts > 250 cells/mm³, including pregnant women receiving chronic treatment for HIV infection are at considerably higher risk of hepatotoxicities. Severe life-threatening and even fatal skin reactions, including Stevens-Johnson syndrome, toxic epidermal necrolysis, and hypersensitivity reactions characterized by rash, constitutional findings and organ dysfunction have occurred with nevirapine treatment. Patients should be monitored intensively during the first 18 weeks of nevirapine therapy to detect potentially life-threatening hepatotoxicity and skin reactions. A 14-day lead-in period with nevirapine 200mg daily must be followed strictly. Nevirapine should not be restarted after severe hepatic, skin or hypersensitivity reactions.”

Warnings associated with the nucleoside reverse transcriptase inhibitors

Lactic acidosis and severe hepatomegaly with steatosis, including fatal cases, have been reported with the use of nucleoside reverse transcriptase inhibitors alone or in combination with other antiretroviral agents.

Tenofovir (Viread) or in combination with emtricitabine (Truvada)

Tenofovir is not indicated for the treatment of chronic hepatitis B (HBV) infection; safety and efficacy in patients with HIV/HBV co-infection have not been established.

Severe acute exacerbations of hepatitis B have been reported in patients who discontinued tenofovir; hepatic function should be monitored closely with both clinical and laboratory follow-up for at least several months after discontinuation of tenofovir in HIV/HBV co-infected patients.

If appropriate, initiation of anti-HBV therapy may be warranted after discontinuation of tenofovir.

Stavudine (Zerit, D4T)

Fatal lactic acidosis has been reported among pregnant women who received the combination of stavudine and didanosine with other antiretroviral combinations.

Stavudine and didanosine should only be used during pregnancy if the potential benefit clearly outweighs the potential risk.

Fatal and non-fatal pancreatitis has occurred when

Black Box continued on page 7

continued from page 6

stavudine was part of a combination regimen with didanosine with or without hydroxyurea.

Zidovudine (AZT, Retrovir) or in combination products (Combivir and Trizivir)

This agent can be associated with hematologic toxicities, including granulocytopenia and severe anemia, including and especially among, advanced HIV patients.

Prolonged zidovudine use has been associated with symptomatic myopathy.

Zalcitabine (Hivid, ddC)

Zalcitabine can cause severe peripheral neuropathy. Use with caution among patients with pre-existing neuropathy, for instance due to diabetes or other diseases, as well as other drugs that cause neuropathy.

In rare cases, zalcitabine can cause pancreatitis. Therapy should be withheld until pancreatitis is excluded.

Rare cases of hepatic failure and death have been reported among patients with underlying hepatitis B infection.

Warnings associated with the protease inhibitors

Tipranavir (Aptivus)

When co-administered with ritonavir, 200mg twice daily, tipranavir has been associated with reports of clinical hepatitis and hepatic decompensation, including some fatalities.

Extra vigilance is warranted in patients with chronic hepatitis B or hepatitis C co-infection, as these patients have an increased risk of hepatotoxicity.

Ritonavir (Norvir)

Co-administration of ritonavir with certain non-sedating antihistamines, sedative-hypnotics, antiarrhythmics, or ergot

alkaloids may result in potentially serious and life-threatening adverse events because of possible effects of ritonavir on hepatic metabolism of certain drugs.

Saquinavir (Fortovase, Invirase)

The low bioavailability of both saquinavir hard gel (Invirase) and soft gel (Fortovase) make them less desirable as sole protease inhibitors (PIs). The manufacturer currently recommends that all saquinavir be used as boosted PIs with ritonavir (Norvir). Since the hard gel capsule (Invirase) appears to have a better gastrointestinal tolerance than the soft gel preparation (Fortovase), it is preferred by some clinicians and patients. In a recent announcement from the manufacturer (Roche Laboratories), Fortovase has recently been discontinued and will no longer be available (at least in the US market).

Invirase as saquinavir hard-gel capsules and tablets, as well as Fortovase (saquinavir soft gel capsules), are not bioequivalent and cannot be interchangeable.

Invirase may be used only if it is combined with ritonavir, which significantly inhibits saquinavir's metabolism to provide plasma saquinavir levels at least equal to those achieved with Fortovase.

Diligent recognition and application of the recommendations of black box warnings and other adverse drug reactions will assist providers in optimizing regimens for HIV-infected patients and, by so doing, improve our achievement of the desired clinical and immunological outcomes for patients with this challenging infection.

REFERENCES AVAILABLE UPON REQUEST

Sarcoidosis: There's Nothing Funny about It

Conchetta White Fulton, Pharm.D.

The recent death of the founding King of Comedy and beloved comedian Bernie Mac, may draw much needed attention to a rare disease that has often gone unnoticed.

According to the Centers for Disease Control, sarcoidosis is a multi-system inflammatory disease of unknown etiology with a marked predilection for the lung.¹ The disease frequently presents between the ages of 20 to 40 and most often occurs in African Americans though it is not mutually exclusive to this segment of the population. In the US, sarcoidosis has been reported to be ten to seventeen times more common in African Americans compared with Caucasians and appears to occur most frequently in the African American female.² The exact cause of the disease is not known; however, genetic and environmental factors are thought to contribute in some form.

The classic feature of the disease is the formation of granulomas, clumps of cells that group together. Most patients diagnosed with sarcoidosis present with common lung symptoms such as dry cough, difficulty breathing and chest pain. The disease may be subdivided into three types: acute, chronic and subacute, in which the patient may be completely asymptomatic.

Due to its inflammatory nature, the major pharmacologic treatment of sarcoidosis is the corticosteroid prednisone. Patients prescribed large doses of prednisone or any other steroid often experience unwanted side effects such as weight gain, difficulty sleeping, osteoporosis, and diabetes. As with most other chronic disease states, sarcoidosis patients may also suffer from depression due to both steroid use and the long term severity and progression of the disease.

Sarcoidosis continued on page 8

Sarcoidosis continued from page 7

Due to the patient's worsening condition or the side effects experienced, immunosuppressants such as hydroxychloroquine, methotrexate, azathioprine and cyclophosphamide may also be prescribed.

According to the National Heart Lung and Blood Institute, medications such as infliximab and etanercept are currently being studied for use in sarcoidosis treatment.³ Because the disease cannot be prevented and there is no current cure, patients are encouraged to practice as many healthy lifestyle choices as possible.

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