GULF COAST SOCIETY OF HEALTH-SYSTEM PHARMACISTS

Editor - in - Chief: Stella Kim, PharmD

Newsletter Vol. 19

2017 GCSHP CASINO NIGHT AT SAINT ARNOLD'S BREWERY HOUSTON, TX

IN THIS ISSUE

President's Report

By: Katie Morneau

Greetings!

Happy Fall everyone! Who can believe we have already kicked off another great year with GCSHP?! We hope this finds you and your family safe and dry after a record breaking hurricane season. I have been amazed at the outpouring of kindness and displays of humanity along with some amazing feats of pharmacy in the past few weeks! In times of difficulty, we often show what we are made of!

GCSHP is incorporating a lot of new changes and events this year so keep your eyes peeled for new happenings! There is A LOT going on! Some of our goals include increasing our CE events, holding general body meetings, collaborating with industry to bring you sponsored dinners, and incorporating more collaboration and outreach with our student chapters and TSHP. We will continue, and plan to expand, our ever-popular networking events and discussions/leadership forums. We have had our first general body meeting in coordination with our law CE this August which was a success and we will be "officially" affiliating with TSHP this year. We will continue to pursue technician involvement and barriers. Please continue reading to see what we are up to!

I'm sad to say we lost one of our most fervent GCSHP supporters this year, Dr. Richard Cadle, who is personally responsible for the involvement of many of the current and former board members. GCSHP contributed as an organization to his scholarship fund and are proud to announce that some of our former board members including Dr. Thani Gossai and Dr. Todd Canada were pivotal in establishing a commemorative scholarship fund in his honor. This scholarship will be offered through the TSHP annual R&E foundation scholarships.

Our 5th annual Casino Night was a success and congratulations to our award recipients: Thani Gossai, Outstanding Pharmacist; Manal El-Khalil, Outstanding Student; Al Lai, Outstanding Industry Service Award; and Faith Rutherford, Outstanding Technician Award.

We are continuing to try to meet and exceed the expectations of you, our membership, and are driven by your passion and commitment. You are what make this organization great! We owe much of our organization's success to our outstanding volunteers and board members who continue to commit to this organization well-beyond their required years of service. We hope to make membership valuable to you! Please reach out if we can better serve you or if you are interested in becoming more involved: gcshp.membership@gmail.com

Kindest Regards,

Katie Morneau, PharmD, BCPS

GCSHP President 2017-2018

Annual Awards

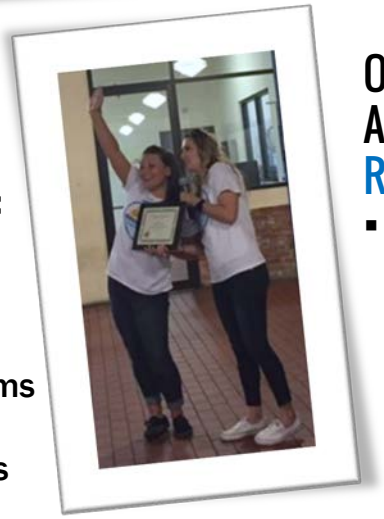
By: Laura Barbre Stokes, PharmD, MS

Outstanding Pharmacist Award: Thani Gossai

- Recognition of outstanding contributions as a health systems pharmacist
- Active participation in the growth of GCSHP and exemplary dedication to improving the delivery of quality health care

Outstanding Industry Service Award: Al Lai, PharmD

- Outstanding service and demonstration of the highest standard of professionalism and constructive interest in the formation, growth, and programs of GCSHP
- Advancement of improved, rational, safe, and economic drug therapy



Outstanding Student Award: Manal El-Khalil

- Demonstration of active participation in GCSHP and interest in health systems pharmacy practice through research and other activities

Outstanding Technician Award: Faith Burnett Rutherford

- Recognition of outstanding contributions to professional growth and community service

TSHP 2018 Meeting Information

TSHP Annual Seminar

April 6 - 8, 2018
The Woodlands, Texas

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2017 ANNUAL SEMINAR IN GALVESTON, TX

TSHP's Annual Seminar is the largest educational and networking meeting of pharmacists, students, technicians, and industry professionals in the state of Texas. With a focus on quality patient care and medication safety, pharmacist and technician registrants may select from over 50 hours of programming. TSHP Annual Seminar programs are designed to maintain and enhance the knowledge, skills, and abilities of pharmacy professionals at healthcare systems and hospitals across Texas.

Location: The Woodlands Waterway Marriott Hotel & Convention Center

1601 Lake Robbins Dr.
The Woodlands, TX 77380
(281) 367-9797

Deadlines:
January 31: Early Bird registration discount ends
March 25: Advance Online Registration ends

2018 competition application will open Spring 2018

Upcoming GCSHP & ASHP Events

S	A	V	E
T	H	E	
D	A	T	E

ASHP Upcoming Events

2017 Midyear Clinical Meeting

December 3 – 7, 2017
Orange County Convention Center
Orlando, FL

Opening Session

Monday, December 4th
Former First Lady Michelle Obama

TSHP Silent Auction

DONATIONS NEEDED!

The TSHP-PAC Silent Auction, held during the TSHP Annual Seminar, is the PAC's annual fund-raising event.

Funds raised from this event help to ensure that our friends in the legislature know that we appreciate the efforts they have made, and continue to make, on behalf of the TSHP, the Texas Pharmacy community and YOUR patients.

What Can I Donate? Here are a few of the many wonderful items that have been donated:

- **Restaurants, food and regional items:** a variety of fantastic wines and gift certificates for restaurants
- **Pharmacy collectibles:** mortars and pestles, antiques, china, apothecary jars, pillboxes, signs and much more
- **Artwork and photography:** oil and watercolor paintings and special photographs
- **Clothing and jewelry:** hand-made clothing and accessories, handcrafted and fine jewelry
- **Gift Baskets:** the sky is the limit!

When Can I Donate? You can start donating today! Please submit your donation form today by clicking here: *https://www.tshp.org/contributions.html.*

5th Annul Casino Night

By: Laura Barbre Stokes, PharmD, MS

In late July, the Gulf-Coast Society of Health-System Pharmacists hosted the 5th Annual Casino Night at Saint Arnold Brewing Company. Dinner was provided by Star Pizza, and there were plenty of casino games and craft beers for everyone to enjoy. This event attracted over 100 students, residents, new practitioners, and seasoned practitioners from all over the Gulf Coast region. Attendees spent the evening networking and learning about GCSHP's efforts in coordination with TSHP to advance the pharmacy profession. Several new memberships and many membership renewals were initiated at this event. We look forward to your involvement with GCSHP and TSHP in 2017-2018! Awards were presented to the 2016-2017 outstanding pharmacist, student, industry service, and technician by current president, Katie Morneau, and president-elect, Joseph Rogers.

For the last 3 years, Casino Night also served as a food drive for the Houston Food Bank. Houston Food Bank is a member of the nation's largest non-governmental, domestic hunger relief organization – Feeding America. In fiscal year 2016-2017, Houston Food Bank distributed 83,000,000 meals. Their vision for 2018 is to increase the number of distributed meals to 100,000,000. For every dollar donated, the Houston Food Bank provides three meals. Casino Night attendees are asked to bring canned goods to donate in exchange for a reduced admission fee. In previous years, GCSHP collected 40 pounds and 110 pounds of food, respectively. In 2017, 119 pounds of food was collected, which is enough to feed 357 people. Sincere thank you to everyone who donated!

Hurricane Harvey & the Gulf Coast's Response

By: Megan McGugan

A Category 4 storm…heading for the Gulf Coast?? The announcement of the potential impact of Hurricane Harvey at the end of August sent a nervous energy up the coast and into its surrounding cities. With almost 10 years since the devastation of Hurricane Ike, the threat of another storm was enough to make the city prepare for the worst.

The calmness of Saturday, August 26th, was followed by an intense amount of flooding on Sunday that went well into the days that followed. The impact of the Hurricane on the community was overwhelming and extensive. Thousands of people were displaced from their homes, many losing almost everything they owned.

In the days leading up to Harvey, the Texas Medical Center and hospitals within the Gulf Coast region adequately prepared their staff to take on more roles than their usual day-to-day tasks.

Hospitals designated their "ride-out" and "recovery" teams which would serve as a division of manpower to cover the hospital staffing during and after the storm. Although each hospital within the Texas Medical Center and the Gulf Coast region approached their processes a bit differently, the one focus that remained the same was ensuring that staff did everything they could to provide quality patient care to the patients they served within their respective institution.

With each day that passed, the health-care providers, cafeteria workers, and other support staff worked together tirelessly to ensure there was no disruption in hospital operations. It became obvious that the only way this would be achieved was if everyone worked together as a united front.

For some health care workers, their dedication to serving the community didn't stop once they left the hospital. Employees who had been working throughout the storm continued relief efforts by volunteering in the shelters that were established. The George R. Brown Convention Center and the NRG Stadium in Houston served as a refuge and a temporary home for those who had been impacted by Harvey. At each shelter, medical treatment areas were set up. Makeshift pharmacies were established and staffed by pharmacists who worked in hospitals, community/retail chains, industry, and independent settings.

Cindy Adibe, a PGY2 Health-System Pharmacy Administration Resident, helped out with Harris Health System's Central Fill Pharmacy that was set up within the NRG Stadium. "During my outpatient operations rotation, I had the privilege of serving those impacted by Hurricane Harvey at the NRG stadium when it functioned as a shelter. Harris Health System partnered with NRG to dispense free medications to these victims using our Central Fill Pharmacy. I staffed at our temporary NRG pharmacy, which served as an extension of one of our established outpatient pharmacies. I recall one patient who was visibly shaken at the loss of her belongings and who was so appreciative of the pharmacy being there. This is still a very difficult time for many people throughout the Houston area and I am humbled to have served the needs of the community in some capacity during this time."

With each patient that was treated, volunteers knew that those at the shelter had more on their minds than just their health. As some stopped by to share their stories, volunteers heard about the challenges that they have ahead of them. Stories about cars that were still lost underwater, flooding that had consumed an entire first story house, and they heard about the struggle of having to come to the realization that they were walking into the shelter with only their loved ones and their pets, unsure of the future that lay ahead of them.

In times of devastation it's collaboration that ignites the movement forward. From the unification of the employees at the various hospitals within the Gulf Coast region, to those who continued to serve others as volunteers in the shelters; it was incredible to witness everyone working together to achieve a common goal. Hurricane Harvey will go down in history as a tragedy that impacted our community is without a doubt a storm that left its mark on our city. As members of the healthcare team, we can appreciate the efforts that the pharmacy profession made in contributing aid to when it was needed most. Thank you to everyone who dedicated their time and effort to make sure our patients and community received the support necessary to begin the rebuilding and recovery.

Remembering Dr. Cadle

'DREAM BIG!' is one thing that Dr. Cadle would say to his learners. The 'Richard Cadle Mentoring Scholarship for Pharmacy Leadership' campaign initially began with the goal to raise $25,000, but it ended up raising over $30,000!

All donations will be dedicated to help residents pay for travel and attend meetings, as they continue to increase their exposure to pharmacy administration opportunities and become the next generation pharmacy leaders.

Thank you to the countless donors who honored Dr. Cadle's legacy by funding this campaign. Through your contribution, learners have been given the opportunity to be mentored, as well as become mentors to others.

If you would like today, please submit your donation at the following link:
https://tshp.site-ym.com/donations/donate.asp?id=15767

Residents Corner

By: Bradley Figgins, PharmD

Optimizing Use of Intravenous Immunoglobulin in Hematopoietic Stem Cell Transplantation

Intravenous immunoglobulin (IVIG) is a mixture of polyvalent antibodies fractionated from pooled stores of human plasma. In the setting of hematopoietic stem cell transplantation (HCT), IVIG is frequently used to improve humoral immunity in patients with post-transplant hypogammaglobulinemia, though it has also been employed in the prevention and treatment of acute graft-versus-host disease (aGVHD) and various viral infections.[1] Consensus guidelines endorsed by ASBMT in 2009 recommend against routine IVIG prophylaxis for bacterial infections and suggest use only in those with severe hypogammaglobulinemia (i.e. serum IgG < 400 mg/dL) within the first 100 days post-HCT.[2] An initial dose of 0.5 g/kg/week is suggested for adults, with subsequent individualization to maintain a trough IgG titer > 400 mg/dL. Beyond day +100, the dosing frequency may be increased to every 3-4 weeks for persistent hypogammaglobulinemia.

Despite these recommendations, IVIG use in HCT is marked by significant heterogeneity and uncertainty, reflective of a relatively weak base of supporting evidence. A large meta-analysis published in 2009 failed to demonstrate any benefit of IVIG prophylaxis in terms of documented bacterial infections, CMV infection, infection-related mortality, or aGVHD; instead, increased risks of hepatic veno-occlusive disease and overall adverse effects (e.g., infusion reactions, myalgia, rash) were observed.[3] Notably, a small number of patients undergoing unrelated, HLA-mismatched, peripheral blood, cord blood, or haploidentical transplantation were included; however, a more recent retrospective analysis indicates that these patients likely do not derive additional benefit from prophylactic IVIG.[4]

Multiple cases of dose-related toxicities with IVIG have been reported, including acute hemolysis and various thrombotic events.[5] In response, several updates to the prescribing information for all IVIG products have been made in recent years, including the addition of boxed warnings and language encouraging use at the “minimum dose practicable.” This unfavorable risk-to-benefit ratio, in addition to recent IVIG shortages, multi-hour infusions, and high cost have generated an interest to develop strategies to optimize utilization of this resource. A potential method of waste reduction exists in the form of alternative weight-based dosing using ideal (IBW) or adjusted body weight (AdjBW) rather than total body weight (TBW).

Prescribing information for commercially available products recommend dosing based upon TBW, the parameter used in clinical trials. The volume of distribution of IVIG ranges from 0.1-0.3 L/kg, indicating that the antibodies primarily reside intravascularly and minimally penetrate into lipophilic tissue.[6] While this information provides rationale for use of dosing weights that are more reflective of total body water, clinical data supporting such adjustments is currently limited to two small pharmacokinetic analyses in non-HCT populations.

Anderson, et al. performed a correlation analysis examining the relationship between IVIG dose administered (N = 11 doses) and the change in serum IgG titer pre- and post-administration.[7] The correlation coefficient was found to be highest when the dose was normalized according to IBW (r = 0.83) versus AdjBW (r = 0.73) or TBW (r = 0.70). Khan, et al. published a similar analysis evaluating the relationship between IgG trough titer and total IVIG dose administered, normalized according to either TBW or body mass index.[8] Neither of these parameters were found to significantly influence the dose ultimately required to attain goal IgG levels.

The practice of using alternative dosing weights has been acknowledged by several prescribing guidelines and protocols. Public health agencies in the UK, Australia, and Canada recommend use of AdjBW if IBW exceeds 120% of TBW, if not for all patients.[9] No such guidance currently exists in the US, though several academic centers have adopted AdjBW or IBW-based dosing either through protocols or pharmacist-led IVIG stewardship programs.[10]

Currently, the evidence does not support the use of prophylactic IVIG in the setting of HCT. Limited data suggest that IVIG may be considered in severely hypogammaglobulinemic patients with recurrent infections. If used, the dose should be based upon IBW or AdjBW to prevent overexposure and reduce waste. In an increasingly competitive healthcare landscape where greater emphasis is being placed upon quality of care, implementing such prescribing changes may also improve efficiency and enhance patient satisfaction.

Author: Bradley Figgins, Pharm.D.
Role: PGY-2 Oncology Pharmacy Resident at the University of Texas MD Anderson Cancer Center
Favorite part of being a member of GCSHP: The opportunity to network and learn from other pharmacists within the Gulf Coast region

Students Corner

By: Grace Hwang, PharmD Candidate 2018
University of Houston College of Pharmacy

Newly approved maintenance chemotherapy: Niraparib (Zejula)

Ovarian cancer is the fifth leading cause of cancer death in female patients in the United States. The current standard of care for primary adjuvant treatment of ovarian cancer is platinum based chemotherapy such as cisplatin or carboplatin in combination with other agents. However, many patients will subsequently relapse (60%–65%) and receive further treatment for recurrent disease.1 In March 2017, Tesaro's Zejula (niraparib) was FDA-approved for the maintenance treatment in adult patients with recurrent epithelial ovarian, fallopian tube, or primary peritoneal cancer who are in complete or partial response to platinum-based chemotherapy.

Niraparib is a highly selective inhibitor of polyadenosine diphosphate (ADP-ribose) polymerase (PARP) 1/2 used in the treatment of recurrent ovarian cancer. Once cancer cells have mutant BRCA genes, they heavily rely on PARPs to repair any DNA damage within cancer cells. PARP1 and PARP2 are enzymes used to repair DNA damage from single-strand breaks and base excision repair.2 Since DNA replication and its repair mechanisms are essential in cancer cell survival, suppression of PARP leads to cancer cell instability and death.

Niraparib is available in a 100 milligram (mg) oral capsule. The recommended dose is 300 mg once daily as monotherapy. Patients should begin niraparib treatment within 8 weeks after the last dose of a platinum-containing regimen.3

Dose adjustments are recommended based on the type of adverse reactions. In patients with non-hematologic adverse reactions, the dose can be reduced to 200 mg daily at the first dose reduction then reduced further to 100 mg daily at the second dose reduction. If the patient experiences hematologic adverse reactions such as platelet count <100,000/µl, neutrophil <1,000/µl, hemoglobin <8g/dL, or reactions requiring transfusion, the dose may be withheld for a maximum of 28 days then resumed at a lower dose.3

The NOVA (Niraparib Ovarian) trial is a double-blind, placebo-controlled, international phase 3 trial that studied patients with high grade serous, platinum-sensitive, recurrent ovarian cancer.4 Patients were enrolled in either germline-BRCA mutation (gBRCA) cohort or non-gBRCA cohort. Within each cohort, patients were randomized 2:1 to receive niraparib 300mg or placebo. The primary endpoint of this study was progression-free survival (PFS). Secondary endpoints included patient reported outcomes, chemotherapy free interval length, and overall survival. The study enrolled total 553 patients in gBRCA cohort and non-gBRCA cohort. For primary endpoint, in both gBRCA cohort and non-gBRCA cohort, median duration of PFS was significantly increased in the niraparib group compared to placebo group as shown in table 1. The most common grade 3 or 4 adverse reactions to niraparib were thrombocytopenia (29%), anemia (25%), neutropenia (20%), and hypertension (9%). The study concluded that among patients with platinum-sensitive recurrent ovarian cancer, the median duration of progression-free survival was significantly longer among those receiving niraparib, regardless of the gBRCA mutations status.

Table 1 NOVA study progression free survival (PFS) results

	Niraparib (months)	Placebo (months)
gBRCA	21.0	5.5
Non-gBRCA	9.3	3.9

In April 2017, the National Comprehensive Cancer Network (NCCN) added niraparib to the ovarian cancer guideline as a maintenance therapy option for patients with recurrent ovarian cancer who have platinum-sensitive disease and are in a partial or complete response after two or more lines of platinum-based therapy.4

Niraparib has shown efficacy in patients with and without germline BRCA mutations and does not require genetic testing to qualify for the medication. NCCN guidelines currently recommend all patients with ovarian cancer to receive genetic risk evaluation. Similarly, commercially available PARP inhibitors other than niraparib require BRCA 1/2 mutation testing using an FDA-approved genetic test or companion diagnostic; however, niraparib can be used without further genetic evaluation.

Reference

1. Raja FA, Counsell N, Colombo N, et al. Platinum versus platinum-combination chemotherapy in platinum-sensitive recurrent ovarian cancer: a meta-analysis using individual patient data. *Annals of Oncology*. 2013.
2. Mirza MR, Monk BJ, Herrstedt AM, et al. Niraparib Maintenance Therapy in Platinum-Sensitive, Recurrent Ovarian Cancer. New England Journal of Medicine. 2016; doi: 10.1056
3. Zejula® [package insert]. Waltham, MA: TESARO, Inc; 2017.
4. Armstrong DK, Plaxe SC, Alvarez RD, et al. Ovarian Cancer including fallopian tube cancer and primary peritoneal cancer. NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines). 2017.

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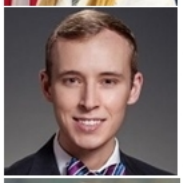

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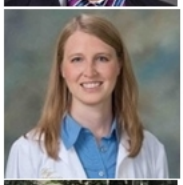

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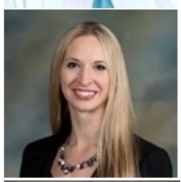

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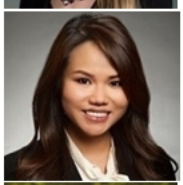

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