



THE RX REPORT

A PSHP Publication

Mar 2019

Quarterly Newsletter

The Panhandle Society of Health System Pharmacists (PSHP) is dedicated to representing the interests of Panhandle area pharmacists, pharmacy technicians, and pharmacy students. We aim to provide benefits to our members such as continuing education, networking, and a forum in which important issues of the profession can be discussed.

*"Our greatest glory is
not in never falling,
but in rising every
time we fall."*

- Confucius

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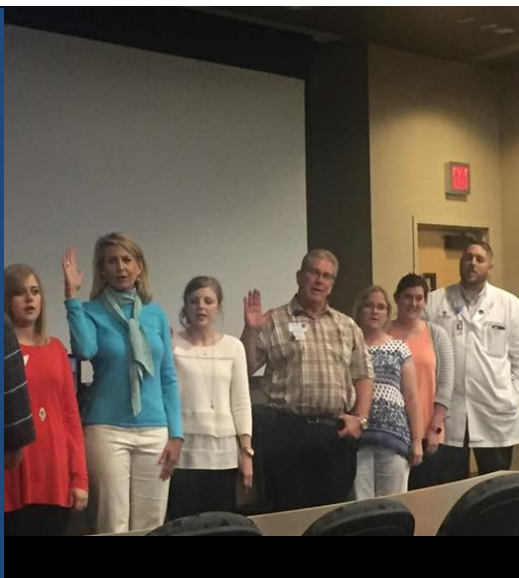
Maegan Whitworth

New Practitioner Liaison

Brandi Dahl

Announcements

- Next meeting: Mar 19th
- Officer nominations
DUE 11:59 PM
on Thursday,
March 14th



In This Issue

- Clinical Corner
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A Look Around the Corner: Vancomycin Trough to AUC Dosing

Clinical Corner

Written by:
Gina Nazworth,
PharmD, BCPS

The new buzz in the infectious diseases realm is the pending release of updated vancomycin therapeutic management guidelines this year. Currently, the manuscript of the revised consensus guideline and review is available for peer critique at the following link:

<https://www.ashp.org/-/media/assets/policy-guidelines/docs/draft-guidelines/draft-guidelines-ASHP-IDSA-PIDS-SIDP-therapeutic-vancomycin.ashx?la=en&hash=8126CEE49F401CDEE5DB49712225F0A4518DB94B>

The previous release of vancomycin guidelines, a consensus of the Infectious Diseases Society of America (IDSA), the American Society of Health-System Pharmacists (ASHP), and the Society of Infectious Diseases Pharmacists (SIDP), was put forth in 2009. It has long been understood that for glycopeptides, including vancomycin, that the area-under-the-curve to minimum inhibitory concentration (AUC/MIC) is the most fitting pharmacokinetic (PK) and pharmacodynamic (PD) target. However, there still exist knowledge gaps when it comes to the best approach in optimizing therapy and avoiding adverse reactions. New guidelines include statements from the Pediatric Infectious Diseases Society (PIDS) and address the following issues: **1) PK and PD targets or AUC/MIC versus trough concentrations**, 2) vancomycin susceptibility concerns, 3) pediatric data, 4) dosing in morbid obesity, 5) intermittent versus continuous infusions, 6) dialysis recommendations, 7) renal toxicity concerns, and 8) monitoring recommendations. The subsequent discussion will focus on PK and PD targets or AUC/MIC versus trough concentrations.

Previously, it has been suggested that an AUC/MIC ≥ 400 -600 mg $\times$ hr/L (specifically AUC over 24 hours and MIC ≤ 1 mg/L using broth microdilution) is the optimal PK/PD predictor of vancomycin bactericidal “efficacy.” It should be noted, however, that such conclusions were derived from retrospective observational data in MRSA bloodstream infections, specifically. Such AUC/MIC values roughly translate to a serum trough concentration of 15-20 mg/L, often used as a surrogate marker for practical purposes. Recent data actually propose that trough values may *not* be an ideal surrogate for AUC values, and the clinical benefit of higher vancomycin trough values has not been well documented, in fact. Whereas the AUC represents cumulative drug exposure (over a defined interval), the trough represents a single exposure point (at the end of a dosing interval). Furthermore, recent data also suggest that AUC-guided dosing is independently associated with a significant decrease in acute kidney injury (AKI).

Ultimately, forthcoming guidelines promote PK/PD outcomes targeting an AUC/MIC of 400-600 mg $\times$ hr/L for serious MRSA infections while trough monitoring targeting 15-20 mg/dL is no longer recommended. AUC/MIC monitoring can be accomplished via two methods: using Bayesian software programs or using first-order kinetics. The Bayesian method (preferred) uses population kinetics to estimate an individual’s distribution prior to administering vancomycin, then the distribution can be revised using patient-specific dosing and drug concentration data – this requires Bayesian software programs. The advantage to the Bayesian approach is that drug concentrations can be collected within the first 24-48 hours (as opposed to steady state time frames). The Bayesian approach also accounts for pathophysiological changes that occur in the critically ill. In another approach, two steady state concentrations can be obtained and first-order PK equations can be used to estimate the AUC.

There does remain a need for future prospective, randomized, multi-center clinical studies to further develop our understanding of vancomycin PK/PD targets associated with maximum efficacy and minimum toxicity – clinicians must realize that the emergence of such data may subject our current methods to change.

Christmas Party Recap

Written by: Jacy Malone

PSHP stands for Pretty Spectacular Christmas Party, don't you know? This year, PSHP's Christmas party was on a Friday and several members attended. Dinner was yummy BBQ from Tyler's BBQ with savory sides from United. Party-goers all brought amazing desserts and after tasting all of them, I'm sure my postprandial glucose was off the charts! Hot homemade wassail was also available to help everyone warm up after coming inside. Tradition continued with the gift exchange game. Hot ticket items this year that were stolen several times included a gift basket of hot cocoa supplies and a fleece blanket (I hope you're enjoying that Dakota!) and a gift card to Lizzie Mae's store. The funniest white elephant gifts included a Hot Dog Warmer for Two – (heats your dogs and your buns for you and your date ;)) and a set of hand-made dinosaur candle stick holders (would have been a classy addition to the hot dog date). For those that missed it, we missed you! Hope to see everyone again next year.





Member Spotlight

Amber Elliott, PharmD, BCPS is currently a clinical pharmacy manager at BSA Health System and Program Director for the BSA Health System PGY1 Pharmacy Practice Residency. Amber has been in the managerial role for more than four years—prior to that she was a clinical pharmacist at Northwest Texas Healthcare System.

Amber grew up in Muleshoe, TX, but has been a resident of Amarillo for the past 20 years. She is currently married to her high school sweetheart, Darren, and together they have 3 crazy little boys—and lots of goats on their goat farm! Her interests and hobbies mostly revolve around her kids' activities. She is their biggest cheerleader! She also enjoys spending time on her family's goat farm, taking care of the goats!

Amber earned her B.S. in Biochemistry from West Texas A&M University in 2003 and her PharmD from Texas Tech University Health Sciences Center School of Pharmacy in 2009. She then went on to complete a two-year pharmacotherapy residency through Texas Tech in Amarillo.

She has been a member of PSHP for about 12 years now, beginning in her P3 year.

“I was interested in joining PSHP because I realized I wanted to pursue a career as a clinical pharmacist and recognized that PSHP could help me build a network to help with my goal.”

Amber feels that she has learned so much by being an active member of PSHP—in fact, it's something she recommends to each student that she interacts with. One of her favorite endeavors undertaken by PSHP includes the incorporation of a dedicated CE spot for local pharmacy residents, as the opportunity for residents is unique to our chapter and provides residents with an excellent opportunity to work on their presentation skills in a non-threatening environment while receiving critical feedback.

Amber envisions the future of pharmacy focusing on clinical activities. She fully expects that we will eventually obtain provider status and that many pharmacists will be acting in a role similar to current mid-level practitioners.

Amber's career advice?

“Don't ask anyone to do something you are not willing to do. Also, pharmacy is a small world, don't burn bridges!”

Thanks, Amber!

Pharmacy Day at the Capitol

George Lee, P2 student, is representing Double T at Pharmacy Day at the Capitol and was awarded the PSHP Travel



PSHP in the Community

PSHP members (and some very helpful spouses) gathered at Faith City kitchen to help serve the evening meal. Taco salad was on the menu and members helped set the table, serve the plates and drinks, clean the dishes, and clean the dining area afterward. Looks like pharmacists heard Rebecca when she called them out at the last meeting!

Also pictured are a few PSHP members working at a local health fair hosted by the students of TTUHSC. Students measured weight, blood pressure, blood glucose, and A1c under the supervisor of preceptors. Students always need preceptors for their events, so if interested in precepting, please reach out. Precepting gives the students an opportunity to perform the skills they learn in school in the real world on real



Pictured from left to right:

Dakota, Rachel, Aaron, James, Jacy, Rebecca



Pictured from left to right:

Ryan, Jacy, Ballard working at a student health fair at a motorcycle church



Teddy Bear Drive with Double T

IT'S NOT TOO LATE! You can still donate requested items to the student's teddy bear drive at the PSHP meeting in March. The deadline for donations is April 5th. Plastic donation bins are also located in the Pharmacy School PAC Building (where our PSHP meetings are held) for you to drop off your items. Requested items include stuffed animals, action figures, books (coloring, activity, blank journals, teen fiction books), games (card games, board games, puzzles), crafts (crayons, stickers, glue), and other toys (Lego kits, bubbles, matchbox cars, Play-Doh, etc.).

For questions: contact Double T representative Leia Gaddis.

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Panhandle Society of Health-System Pharmacists

Contact Us

Shoot us an email with any upcoming news you would like to share or photographs of our PSHP group!

You may also submit nominations for the Member Spotlight to any of the member emails listed.

PSHP Facebook
@ PSHPTX

PSHP Email
pshpemail@gmail.com

ASHP Drug Shortages

H A L O P E R I D O L X A A R
P A T T G U S G C R W H Z V B
D T M I D O D R I N E V Y I O
I R Q X D Y H T F U X E T M D
A O Z N S V A L S A R T A N V
Z P A L S V Z Q S T M B E P E
E I M N V T U S H J I P T O G
P N I R E H B Z K H C O S T W
A E O Z X G T P Z E I P F A O
M R D T Z F Z B M H A K R S F
X O A N C E K X Y S P V X S T
Q T R Y T P P S N E V T G I S
K E O S V O P R V V B L E U R
C L N D R Q D E B M I W S M Y
O K E O A I O O H J Z C I D S

haloperidol
midodrine

amiodarone
atropine

valsartan
diazepam

potassium

Clinical Corner References

1. Rybak MJ, Le J, Lodise TP, et al. Therapeutic monitoring of vancomycin: a revised consensus guideline and review of the American Society of Health-System Pharmacists, the Infectious Diseases Society of America, the Pediatric Infectious Diseases Society, and the Society of Infectious Diseases Pharmacists. Unpublished.
2. Heil, EL, Kimerly CC, Mynatt RP, et al. Making the change to area under the curve-based vancomycin dosing. *Am J Health-Syst Pharm.* 2018;75:e828-e836. doi: 10.2146/ajhp180034.

