ACCP STUNEWS

ACCP President Visits The University of Cincinnati James L. Winkle COP

Tyler A. Vest, Pharm.D. Candidate 2016
University of Cincinnati James L. Winkle College of Pharmacy

The University of Cincinnati James L. Winkle College of Pharmacy American College of Clinical Pharmacy (UC ACCP) Student Chapter had the pleasure of hosting the current ACCP President, Judith Jacobi, Pharm.D., FCCM, FCCP, DPNAP, BCPS, on February 19th and 20th. Her visit to UC consisted of visiting with many faculty, preceptors, and students, as well as presenting several exciting topics relating to her career as a critical care pharmacist.

On the evening of February 19, 2015, Dr. Jacobi delivered a CE presentation on, "Teamwork for Insulin Safety in the Hospital", that was cosponsored by the Ohio College of Clinical Pharmacy (OCCP). This compelling topic

attracted many pharmacists and students, despite the glacial Cincinnati weather. Following, on February 20, 2015, Dr. Jacobi gave a talk to students titled, "My High Standard of Practice in Pharmacy." Within this presentation, Dr. Jacobi stressed the importance of various strategies for advancing our standard of practice for clinical pharmacy and how students can play a role in this process. ***Cont. on page 3***

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Clinical Case

HPI: A 62-year-old man presented to the hospital 7 days ago with a ruptured aneurysm leading to a subarachnoid hemorrhage and now requires ventilator support. He complained of having "the worst headache of his life" before admission to the hospital. **PMH:** Previous coiling of aneurysms; hypertension **SH:** Nonsmoker, nondrinker **Current Medications:** Lisinopril 20 mg daily; amlodipine 10 mg daily **NKDA Vital Signs:** Temp 39.2°C (102.6°F); BP: 86/69 mm Hg; RR: 25 bpm; HR: 95 bpm **Laboratory Values:** Potassium 5.2 mg/dL; SCr 3.2 mg/dL; WBC 20 x 10^3/mm^3; platelet count 76,000/mm^3; lactate is 5.5 mmol/L; all other values within normal limits **Arterial Blood Gas:** pH 7.29, PaO_2 85 mm Hg, $PaCO_2$ 32 mm Hg, HCO_3 19 mEq/L **Procedure Data:** The chest radiograph from today (day 7 of hospitalization) shows consolidation in the right lower lobe. The patient had a central venous line placed 6 on admission.

1. The patient has required 3.5 L of normal saline (NS). His BP after the fluid boluses is 84/62 mm Hg, and he is given a preliminary diagnosis of pneumonia. Which of the following is the MOST specific classification for this patient's condition?
2. Blood cultures are ordered for this patient. Which statement best describes the number and site from which they should be drawn?
3. What is the most appropriate empiric antibiotic regimen for this patient?

For additional case questions and explained answers click here.

Management of Diabesity

Hoang (Terry) Nguyen, Pharm.D. Candidate 2016
Touro College of Pharmacy

Over the last several decades, Type 2 Diabetes Mellitus (T2DM) has reached pandemic levels. According to the CDC, the worldwide prevalence of T2DM was 285 million people in 2010 and is projected to increase to 438 million in the year 2030.[1] This staggering rise in T2DM has paralleled with the increasing rates of obesity.[2] The elevating rates of obesity is hypothesized to be caused by adoption of the "western lifestyle" in developing countries, which consists of high-energy diets, excess nutrients, and reduced physical activity.[3] There has been supporting evidence that a pathogenic relationship exists between T2DM and obesity; though there is no exact mechanism that demonstrates how it leads to insulin resistance.[4]

The biguanide class consists of metformin (Glucophage®, Glucophage ER®). Metformin is capable of lowering hemoglobin (Hgb) A1c by 1.5-2% while still having a weight loss effect of approximately 2-3 kg. Metformin is the oral drug of choice for controlling T2DM and is known for its unpleasant gastrointestinal side effects; however these are often transient and can be minimized by taking metformin during meals.[5]

The glucagon-like peptide-1 (GLP-1) receptor agonist class includes exenatide (Byetta®/ Bydureon®) and liraglutide (Victoza®), with a weight loss profile of 2.87 kg and 3.84 kg, respectively. Both drugs have a mild HgbA1c reduction of around 0.9-1%.[4] The newly approved formulation of liraglutide, Saxenda®, is used for the treatment of obesity.[6] If patients are prescribed GLP-1 analogs, they should be made aware that the route of administration is via injection and is very costly. In addition, both liraglutide and the extended formulation of exenatide have a black box warning of increasing the risk of thyroid cancers, such as multiple endocrine neoplasia type 2 (MEN2) syndrome and medullary thyroid carcinoma (MTC).[5]

The amylin analog class solely involves pramlintide (Symlin®). Pramlintide has a very mild HgbA1c reduction of 0.3-0.4% with a modest weight loss of 1-2 kg.[4] Due to its black box warning of severe hypoglycemia with insulin, prandial insulin should always be reduced by 30-50% when used in combination with pramlintide.[5]

A novel class of sodium-glucose co-transporter 2 (SGLT2) inhibitors include canagliflozin (Invokana®), dapagliflozin (Farxiga®), and a recently added member empagliflozin (Jardiance®). This class lowers renal threshold for glucose excretion, which increases glucose elimination by inhibiting SGLT2 to prevent the reabsorption of glucose in the kidney.[4] It has a mild HgbA1c reduction of 0.6-0.9% with a weight loss of 2-3 kg.[4] Although an exact mechanism may not exist to label obesity as a causative agent of T2DM, the strong correlation between obesity and T2DM should not be taken lightly. While some of the therapeutic agents reviewed in this article may seem more beneficial than others, it is ultimately up to the healthcare professional's discretion to provide all the pertinent information regarding the agents prescribed to their patients.

Citations:
1. Bailey CJ. The challenge of managing coexistent type 2 diabetes and obesity. *BMJ* 2011;342:d1996.
2. Colagiui S. Diabesity: therapeutic options. *Diabetes Obes Metab* 2010;12: 463-73.
3. Nolan CJ, Damm P, Prentki M. Type 2 diabetes across generations: from pathophysiology to prevention and management. *Lancet* 2011;378:169-81.
4. Goswami G, Shinkazh N, Davis N. Optimal pharmacologic treatment strategies in obesity and type 2 diabetes. *J. Clin. Med.* 2014;3:595-613.
5. Micromedex® Healthcare Series [Internet database]. Greenwood Village, Colo: Thomson Reuters (Healthcare) Inc.
6. FDA approves weight-management drug Saxenda. U.S. Food and Drug Administration. 2014. Available at: http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm427913.htm. Accessed on January 8, 2015.

ACCP President Visits University of Cincinnati *(Continued)*

Dr. Jacobi said the following about her visit, "I was honored to have been invited to visit the University of Cincinnati James L Winkle College of Pharmacy to present a CE program and a presentation to the students. As one of the original student chapters, they have effectively modeled the attitudes and opportunities for other programs. Service programs, social programs, and support for clinical pharmacy education are key focus areas supported by an enthusiastic leadership and dedicated faculty sponsor. The Ohio College of Clinical Pharmacy supports the students activities and established a tele-conference link for the CE program, extending the impact of this event throughout the State of Ohio." She went on to say, "I was given excellent hospitality and the opportunity to speak to the leadership about plans for the Chapter in a casual atmosphere. Students like I met at the University of Cincinnati are the future of ACCP and clinical pharmacy. I have great confidence in their current success and look forward to their sustained contributions to the profession."

This was a fantastic opportunity for our chapter to both learn from an absolute role model in clinical practice and leadership, as well as share information about our college and the accomplishments of our UC ACCP chapter with Dr. Jacobi. Additionally, this unique experience allowed our chapter to gain a fresh perspective on the future of leadership within our profession and has certainly been a highlight of our chapter's history. We hope to continue providing similar leadership events in the future and greatly appreciate all of the support we have received from ACCP!

Page 1 Photo: Dr. Jacobi with Tyler Vest, current UC ACCP President, before her talk to students
Above: UC ACCP Student Chapter 2014-2015 and 2015-2016 Leadership with Dr. Jacobi

New Drug Update: AFREZZA™

Alicia Lopez, Pharm.D. Candidate 2016
Shenandoah University Bernard J. Dunn School of Pharmacy

Afrezza (insulin human), a rapid-acting inhaled insulin powder manufactured by MannKind Corporation, received FDA approval in June 2014.

Efficacy

Efficacy for Afrezza has been studied in Type 2 diabetic patients on oral antidiabetics, vs. inhaled placebo, and in Type 1 diabetic patients on basal insulin, vs. injected mealtime insulin (aspart). In a 24-week trial. Afrezza provided a superior reduction in HbA1c, compared to placebo (-0.40; 95% CI [-0.57, -0.23]). Afrezza was found non-inferior to insulin aspart in a 24-week trial, meeting the pre-set non-inferiority margin of 0.4%.

ADRs/Precautions/Contraindications

Common side effects include cough, throat irritation, and hypoglycemia. Afrezza carries a black box warning regarding the risk of acute bronchospasm in patients with chronic lung disease (CLD) and is contraindicated in patients with CLD. This is due to observed declines in pulmonary function in these patients. Other potential serious adverse effects include lung cancer and diabetic ketoacidosis.

How Supplied/Storage

Each Afrezza inhaler comes fully assembled and individually packaged. Afrezza inhalers must be discarded 15 days after first being used and replaced with a new inhaler. Afrezza inhalation powder is available in 4 unit and 8 unit single dose cartridges. Unopened Afrezza packages should be stored refrigerated until use, or until the expiration date. Unrefrigerated and opened packages must be used within 10 days and opened blister strips within 3 days.

Administration

Cartridges must be kept at room temperature for at least 10 minutes before being loaded into the inhaler. Once loaded, the inhaler should be kept level to avoid loss of drug.

Summary

Afrezza may be a good option for patients with diabetes, without chronic lung disease, that are resistant to multiple daily insulin injections. It may not be the best option for patients requiring larger doses of mealtime insulin.

For more info: visit www.fda.gov; http:// www.afrezza.com

Citations:
1. Afrezza [package insert] Danbury, CT: MannKind Corporation; 2014.
2. "FDA approves Afrezza to treat diabetes." U.S. Food and Drug Administration. U.S. Department of Health and Human Services, 2014.
3. Anon. Lexicomp Online. (Hudson, Ohio): Wolters Kluwer Health; 2015. http://online.lexi.com/lco/action/home. 01 March 2015.

Clinical Spotlight:

Terry Seaton, Pharm.D., FCCP, BCPS

ACCP President-Elect

Interviewed by Ana Simonyan, Pharm.D. Candidate 2018

St. Louis College of Pharmacy

Q: What educational steps did you take to get where you are today?

A: I received a bachelor's degree in Pharmacy at the University of Colorado. It was a 5 year program: 2 years of pre-pharmacy and 3 years of pharmacy school. Once I graduated, I worked as a staff pharmacist in a hospital for 2 years, and then went back to school for my Pharm.D. at the University of Washington in Seattle. The program I chose was a combined Pharm.D. and residency program. The advantage was that you earned 2 credentials in 2 years, but it was also comparable to 3 years of work in 2 years. After the degree and residency, I completed a specialty residency in family medicine – also in Seattle. I then moved to St. Louis and joined the faculty at St. Louis College of Pharmacy. From there, I worked in Family Medicine for 13 years, Medical Informatics for 11 years, and now I have a clinical site with the Barnes Jewish Center Accountable Care Organization (BJC ACO). There, I practice population health by helping the ACO meet their quality metrics, two-thirds of which are drug therapy related.

Q: How has ACCP been important in your professional development? What other activities were you involved in before being president-elect?

A: ACCP is the organization for the highest level clinical practitioner; the high-quality educational programming, and the opportunity to network with other pharmacists that are just like me is critically important. It's a growing organization that I feel has the same values about practice, research, and education that I do, so it's a natural fit for me. Before becoming president-elect, I was the co-founder of the Ambulatory Care PRN. I was the chair of the PRN for 2 years, and then it really took off since Ambulatory Care is so broad, and because we were and are a very active PRN. Another way I have been involved in ACCP is through committees and task forces. Serving on an ACCP committee is a great volunteer opportunity, and the work they produce is closely aligned with ACCP's Strategic Plan. They are very structured, organized, and productive. In fact, every committee has different levels of leadership, and they work very hard throughout the year to complete the tasks set out to them by ACCP. I've been on a number of committees, and I also had the opportunity to serve on the Board of Regents (BOR). Working closely with ACCP staff, the BOR essentially makes the key decisions for the organization, and I believe this has given me the best view of the leadership of the organization.

Q: What do you look forward to about being president of ACCP?

A: I still consider myself to be on a steep learning curve in pharmacy, health care, and within ACCP. As President, I will be exposed to other pharmacy organizations on a level that I have never been before. I will be the face of ACCP and will represent ACCP in meetings with other pharmacy organizations. I hope to be collaborative with other health professions to promote pharmacy in health care.

Q: What advice would you give students interested in clinical pharmacy? In ACCP?

A: Get involved early! That is my best advice. Seek jobs and volunteer opportunities to expose yourself to the various roles and settings in clinical pharmacy. The field is developing at a pace that it never has before. I know it's difficult, and everything is getting very competitive. My advice to students is this: have your goals in sight and work towards those goals. If there are other attractive things that come up along the way, it doesn't hurt you to try them!

2014-2015 ACCP National Student Network Advisory Committee

LEADERSHIP:

Kyle Strnad – Chair
TylerVest – Vice Chair
Erin McCreary – Secretary

MEMBERS-AT-LARGE:

Matthew Atkinson
Kelsey Billups
Timothy Howze
Jennifer Koehl
Ruby Lee
Alex Olinger
Jinhee Park
Rebecca Pulk

ACCP STAFF LIASON:

Michelle Kucera, Pharm.D., BCPS

Forget the Cape--My Hero Wears a White Coat

Amanda Kernodle, Pharm.D. Candidate 2015
Purdue University College of Pharmacy

Student Chapter Challenge:

Clinical pharmacists are superheroes. Please submit a narrative detailing their powers!

Throughout my APPE rotations, I have had the privilege of working with numerous excellent practitioners. However, I had one particular experience where I was witness to the supernatural abilities of a clinical pharmacist. It was during my anticoagulation rotation, and we had a new patient. While all patients starting warfarin therapy require extra care, this patient had especially demanding needs. She was concurrently receiving treatment for colon cancer. It proved to be difficult to get this patient to goal and stabilize her INR. The true heroic action of this pharmacist was reflected in her compassion for this patient to go above and beyond for the clinical management of her patient.

The patient was visiting our clinic frequently for adjustments of her warfarin therapy, as well as coming to the medical center for her oncology treatments. This placed a burden on the patient that my pharmacist did not overlook. About three weeks into treatment our patient's INR spiked out of control. This was a dangerous situation, and we continued to monitor her on a day-to-day basis only adding to the stress for this patient. To help assist the patient's needs, the clinical pharmacist volunteered her time and lunch to visit the patient at the radiology center. Together, we brought our Coag-check machine and other testing supplies to manage her INR offsite. This was an extraordinary task above the necessary duties for the pharmacist, but it made a lasting impact on our patient for which she was incredibly grateful. Sometimes it is not the clinical management that impresses our patients, but our compassion.

JOIN US FOR THE NEXT STUDENT CHAPTER CHALLENGE

Every super pharmacist needs a sidekick. Please create an idea for an ideal mobile health app that assists pharmacists in providing patient care!

Have an idea for a student chapter challenge? Submit your question to stunews@accp.com

For more information, Check out our website:
http://www.accp.com/index.aspx

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Calendar of Events

April
10-14 ACCP Updates in Therapeutics, Rosemont, IL
11-12 Emerge from the Crowd 2015, Rosemont, IL

May
April 30 – May 2 ACCP/ASHP Oncology Prep Review, Dallas, TX