



SOUTHEAST CHAPTER UPDATE

TRIANNUAL NEWSLETTER

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NEWSLETTER EDITOR

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NOVEMBER Meeting In Review

TOPIC: Pharmacokinetic Considerations in Critically Ill Patients

By Andie Hall, PharmD



On November 12, 2019, the Southeast Chapter of the Society of Critical Care Medicine welcomed Dr. Joseph M. Swanson, PharmD, FCCM, FCCP, BCPS, professor of clinical pharmacy and translational science at the University of Tennessee Health Science Center, to discuss the impact of critical illness on pharmacokinetics (PK) and pharmacodynamics (PD).

The effects the body exerts on a drug is known as PK and includes the absorption, distribution, metabolism, and excretion of the drug. The effect the drug has on the body is PD. Guidelines for the consideration of PK/PD alterations in critically ill patients are lacking and successful management of these patients requires a thorough understanding of drug therapy and the physiologic changes that alters their properties.

Critically ill patients have variations in absorption secondary to decreased gut perfusion, intestinal atrophy, and edema, which may limit the clinical benefits of oral medications. Intravenous administration of medications rather than oral, subcutaneous, or intramuscular administration, bypasses these concerns by providing 100% bioavailability. Other absorption considerations include physical compatibility with enteral nutrition, gastric pH changes, and dysmotility. Volume of distribution (Vd)

is also altered. Vd can be decreased due to decreased perfusion to the muscle and skin in shock states, but increased with the use of extracorporeal membrane oxygenation (ECMO) or in the setting of volume overload. Considering the lipophilicity and hydrophilicity of the drug can help determine the extent to which critical illness will contribute to altered PK.

Metabolism, defined as the biochemical transformation of a drug, occurs in the kidneys, liver, and serum. Decreased perfusion in critical illness secondary to shock, positive end expiratory pressure or myocardial infarction can lead to decreased metabolism of drugs and ultimately increased free serum drug concentrations and unwanted adverse effects. And finally, drug excretion in critical illness is variable. Critically ill patients have been shown to have augmented renal clearance, which is enhanced elimination of solutes by the kidneys. This state can occur for up to a week, and can make medication dosing challenging. The presence of acute kidney injury or acute liver failure can lead to decreased elimination of a drug.

Ultimately, it's imperative that critical care practitioners have a thorough understanding of how physiologic changes can lead to alterations in PK/PD. Failure to take into account these alterations can limit the clinical benefit of a therapy or cause harm to a patient.

Want to Become More Involved?

For members interested in joining a committee, please contact us at communications@sccmse.org, and let us know how we can get you involved with the Southeast Chapter of SCCM.

ANNOUNCEMENTS

The Southeast Chapter Welcomes New Leadership Officers, Members-at-Large for 2020 - 2022

President

Ashley DePriest Werling, MS, RD, LD, CNSC
Clinical Nutrition Manager
Wellstar Kennestone Hospital



Secretary

Maria Zhorne, PharmD, BCCCP
Critical Care Clinical Pharmacy Specialist
Baptist Memorial Hospital – Memphis



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Critical Care Clinical Pharmacy Specialist
Augusta University Medical Center



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Andrea Newsome, PharmD, BCPS, BCCCP
Assistant Professor - University of Georgia,
Critical Care Clinical Pharmacy Specialist -
Augusta University Medical Center



Congratulations Award Winners

Social Media Travel Grant Award

Andrea Newsome, PharmD, BCPS, BCCCP

Executive Board Travel Grant Award

Emily Vance, PharmD;

Alexandria Hall, PharmD;

Christa O'Hana S. Nobleza, MD, MSCI

Bite-Size Lecture Series

Susan Smith, PharmD, BCCCP, BCPS



We invite you to our Bite-Size Lecture Series on **March 19 at noon EST!** A multi-professional panel of four speakers will each deliver a 10-12 minute learning lectures on neonatal ICU. Please be on the lookout for further announcement on our Facebook page and Twitter @SCCMSE.

If you are interested in being a speaker or hosting a session at your site, please email: susan.smith@uga.edu.

Cardiopulmonary Resuscitation Event

By Megan Van Berkel Patel, PharmD, BCPS, BCCCP

The Southeast Chapter in conjunction with Erlanger Hospital in Chattanooga hosted a hands-only CPR event on Sunday, October 20 at the Chattanooga Market. Passersby were educated on CPR technique and were able to practice with guidance from members of the Southeast Chapter and Erlanger's Pharmacy residents. If you are interested in hosting a hands-only CPR event please contact us to help.



November Twitter Journal Club:

A Randomized Trial of Supplemental Parenteral Nutrition in Underweight and Overweight Critically Ill Patients: the TOP-UP Pilot Trial

By Manal Elfakhani, PhD, Dietetic Intern

In November, the Southeast Chapter of SCCM hosted a Twitter Journal Club on an article discussing the role of supplemental parenteral nutrition (SPN) in critically ill patients. The TOP-UP trial was a feasibility study aimed at determining if a clinically significant difference in calorie/protein intake between 2 intervention groups (Enteral Nutrition (EN)-only vs. SPN + EN) is possible and examining the possibility of measuring functional endpoints in the ICU setting. The authors looked at ICU and hospital mortality and compared medical and surgical patients on NUTRIC scores (<5 vs ≥ 5) and BMI (<25 vs >35).

The study showed that compared to EN only, patients receiving SPN+EN had significantly increased calorie/protein delivery. Reduced

A promotional graphic for the Southeast Chapter of the Society of Critical Care Medicine (SCCM). It features the SCCM logo, the text "STUDENT-LED CRITICAL CARE Live TWITTER CHATS", and social media information: "Follow us @SCCMSE #SCCMSEChat". The background is dark blue with orange and white accents.

mortality was only observed in the BMI <25 subgroup and in patients with NUTRIC ≥ 5 in the SPN + EN group. The authors concluded that a full-scale trial of SPN delivery and its effect on QoL and functional outcomes would be beneficial.

We polled the Twitter community, and 75% of participants indicated

that their facilities do not currently measure EN start times or monitor average initiation times. 80% indicated that they do not routinely provide SPN with EN for critically ill patients.

The entire discussion can be viewed through our twitter feed @SCCMSE using the hashtag #SCCMSECHAT.

December Twitter Journal Club:

Half-Dose vs. Full-Dose Alteplase for Treatment of Pulmonary Embolism

By Morgan Lee Frawley, PharmD

Kiser et al. conducted the trial seeking to answer the question: Does half-dose alteplase (50 mg) provide similar efficacy as full-dose (100 mg) while decreasing the risk of bleeding? This trial was an observational cohort study including 3700 patients over 700 US hospitals, spanning five years. Patients included had a diagnosis of acute PE and were admitted to the ICU without receiving other interventions for primary reperfusion. The primary outcome was treatment escalation, defined as the need for secondary thrombolysis, embolectomy, catheter thrombus fragmentation, IVC filter placement, vasopressors, assisted ventilation, or CPR.

The half-dose group had a higher incidence of escalation of

treatment when compared to the full-dose group (54% vs. 47%), mainly driven by secondary thrombolysis and catheter thrombus fragmentation. The investigators also performed propensity-matched analysis, which showed consistent results as the primary analysis, (54% vs. 41%). There were also increased hospital charges in the half-dose group, and no differences were in safety outcomes between the two groups.

The study's retrospective nature did limit data collection to only diagnostic codes and the availability of some laboratory values or vitals. Thus, the investigators were unable to determine exactly why treatment was escalated. There was also

only a few number of patients with massive PE that received half-dose alteplase, so application of this data to that patient population may be limited.

In conclusion, when comparing half-dose to full-dose alteplase for the treatment of PE, escalation of treatment did occur more frequently when half-dose alteplase was utilized. There was also increased hospital charges associated with the half-dose group, around \$30,000 per patient. Both treatment groups had similar rates of mortality and bleeding events.

The entire discussion can be viewed through our twitter feed @SCCMSE using the hashtag #SCCMSECHAT.

The Southeast Chapter of the Society of Critical Care Medicine

Proudly Presents a Quarterly Lecture and Discussion on

“CRRT in Critically Ill Patients”



TUESDAY, March 10, 2020

5:30 – 7:30 P.M. EST

**DINNER | NETWORKING | EXHIBITORS BOOTHS
KEYNOTE SPEAKERS PRESENTATION/DISCUSSION
Q&A | RAFFLE ANNOUNCEMENT | CLOSING**

**5:30 – 6:00 P.M.
6:00 – 7:00 P.M.
7:00 – 7:30 P.M.**



GUEST SPEAKER:

MICHAEL CONNOR JR., MD
ASSISTANT PROFESSOR OF MEDICINE
DEPARTMENT OF MEDICINE

LIVE EVENT!

ATLANTA LOCATION:

Grady Memorial Hospital
Steiner Auditorium
68 Armstrong St.
Atlanta, GA 30303

LIVE REMOTE BROADCAST:

Athens, GA

Piedmont Athens Regional Medical Center

Atlanta, GA (Second Location)

Northside Hospital

Birmingham, AL

Univ. of Alabama at Birmingham

LIVE REMOTE BROADCAST: (CONT.)

Jackson, MS

University of Mississippi Medical Center

Louisville, KY

University of Louisville Hospital

Little Rock, AR

Baptist Health Medical Center

Memphis, TN

Baptist Memorial Hospital

Tuscaloosa, AL

Tuscaloosa Lung, Critical Care, & Sleep

REGISTRATION

Registration is required for dinner.
This event is not commercially sponsored.

Live web cast will be available for remote participation.

Register today!



<http://events.constantcontact.com/register/event?llr=u-yewwvwrab&oeidk=a07egv4amssb564d8cb>

MENTOR / MENTEE PROGRAM

Are you interested in being a Mentor and/or Mentee to or for a healthcare professional in the same or a different discipline? Our new Mentor/Mentee matching program is now open for all Southeast Chapter Members. For more information or to sign up visit our website www.sccmse.org and click "Mentor Mentee Program" at the top of the page.



**Interested In Being a
Mentor and/or a Mentee
To a Healthcare
Professional of Any
Discipline**



Are you an SE SCCM Member?

This opportunity is open to any member, fully accredited practitioners or trainees in any profession (physicians, pharmacists, nurses, respiratory therapists, APPs, dietitians, etc.).

You may sign up as a mentor, mentee, or both.

You are welcomed to pair with someone outside of your own discipline.





SOUTHEAST CHAPTER SOCIETY OF CRITICAL CARE MEDICINE CALENDAR OF EVENTS

2020

JANUARY		FEBRUARY	<p>Feb. 6 Twitter Journal Club: "Tenecteplase vs. Alteplase before Thrombectomy for Ischemic Stroke"</p> <p>Feb. 16-19 49th Annual SCCM Congress</p> <p>Feb. 17 SCCM SE Chapter Business Meeting</p>	MARCH	<p>Mar. 10 SE SCCM Quarterly Meeting: Continuous Renal Replacement Therapy By Michael Connor Jr., MD</p> <p>Mar. 19 Bite Sized Lecture: Neonatal ICU</p>
APRIL	<p>Date TBD Twitter Journal Club</p>	MAY	<p>Critical Care Awareness and Recognition Month</p> <p>May 6 Ultrasound Course</p> <p>May 7-8 Southeastern Critical Care Summit</p> <p>May 15 Wear ICU Blue Day</p> <p>Date TBD Bite Sized Lecture</p>	JUNE	<p>Date TBD SE SCCM Quarterly Meeting: PICS and Post-ICU Care By Ashley Montgomery-Yates, MD</p>
JULY	<p>Date TBD Twitter Journal Club</p> <p>Date TBD Bite Sized Lecture</p>	AUGUST	<p>Date TBD SE SCCM Quarterly Meeting: Guidelines on the Initial Medical Management of Cerebral Edema By Aaron Cook, PharmD, BCPS, BCCCP</p> <p>Aug. 2 Emergency Neurological Life Support (ENLS) Course</p>	SEPTEMBER	<p>MONTH OF SEPTEMBER: Sepsis Awareness Month</p>
OCTOBER	<p>Date TBD Twitter Journal Club</p> <p>Date TBD Bite Sized Lecture</p>	NOVEMBER	<p>Date TBD SE SCCM Quarterly Meeting: Presidential Address By Lewis J. Kaplan, MD, FCCM</p>	DECEMBER	

Dates subject to change. Please visit our website at <https://sccmse.org/> or @SCCMSE on Twitter for more information.

SAVE THE DATES

SOUTHEASTERN CRITICAL CARE SUMMIT CALL FOR POSTERS!

This year, the Summit will be held for two days on May 7-8, 2020 at the Emory Conference Center Hotel in Atlanta, GA. If you are interested in displaying a poster that is either new or showing recently completed work on research of quality improvement, please submit an abstract or a copy of the poster to Marina Rabinovich at mrabinovich@gmh.edu by April 3, 2020. Also contact Marina Rabinovich for more information.

TWITTER JOURNAL CLUB

Please be on the lookout for future Twitter Journal Clubs coming in April, July, and October! Dates and topics TBD at @SCCMSE on Twitter.

SCCM CONGRESS BUSINESS MEETING

Monday, February 17, 2020, 3:30 PM EST
Hyatt Discovery Room 44
Orlando, FL
Social event to follow at the Hyatt Rocks Bar!

THANK YOU TO OUR MEETING SPONSORS FOR THE MONTH OF NOVEMBER



Have any topics you'd like to hear more about in 2021? Email Mia Malin at mia.ottey@gmail.com with topics and speaker suggestions.



Newsletter designed by JDM Graphic Designs
E-mail: jackiemoore@bellsouth.net

Southeast Chapter Member Benefits



Bimonthly Educational Meetings
with Renowned Speakers



Triannual Newsletters with
Chapter Updates



Continuing Education Credits
and Contact Hours



Research Opportunities and
Research Mentorship



Mentors To Help Guide Your
Professional Journey



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Healthcare Professionals of
All Disciplines



Exciting and Cutting Edge
Conferences



Community Outreach Activities



Leadership Experiences