CLASS OF 2017

Itay Ayalon: 7/1/2014 – 6/30/2017

Location after Fellowship: Tel-Aviv Sourasky Medical Center

Research Experience

The Kaplan Lab, Division of Critical Care, Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, USA
Under the supervision of Dr. Jennifer Kaplan and Prof. Basilia Zingarelli – Focusing on the alternation of the white adipose tissue during sepsis, the implication of obesity during sepsis and the "browning" phenomenon of the white adipose tissue during sepsis.

PEER-REVIEWED PUBLICATIONS

Ayalon I, Alder MN, Langner TR, Hafberg ET, Miethke AG, Kaplan JM. A Case of Salicylate Intoxication Complicated by Coagulopathy, Pulmonary Edema, and Pancreatitis. *Am J Ther*. 2016 Nov/Dec;23(6):e1929-e1932.

ABSTRACTS

Increased Mortality Risk in Underweight, Not Obese, Critically Ill Children.

Sepsis induces adipose tissue browning in non-obese mice but not in obese mice.

Obesity alters adipose tissue response to sepsis through white to brown transdifferentiation

The effect of obesity in critically ill pediatric patients with sepsis and the impact on acute kidney injury

OTHER ACADEMIC ACHIEVEMENTS

Manuscript Reviews for the following journals: Hospital Pediatrics (03/2017), Shock (10/2016, 06/2016, 04/2016), American Journal of Physiology, Regulatory, Integrative and Comparative Physiology (AJPREGU) (12/2016), Pediatric Critical Care Medicine (PCCM) (09/2016, 12/2015), Intensive Care Medicine (ICM) (04/2015).

Chapter Reviews: American Academy of Pediatrics (AAP) Section of Critical Care (SOCC) – Technical review, Acute Asthma Exacerbation (10/2016).

AWARDS

Travel Award. The 40th Shock Society Annual Conference; Fort Lauderdale, Florida, USA 06/2017

Star Research Achievement Award. The 45th Critical Care Congress; Orlando, Florida, USA (2016).

Zachary Berrens: **7/1/2014 – 6/30/2017**

Location after Fellowship: Riley Hospital for Children at Indiana Universtiy Health

Research Experience

His primary research focus involved a clinical study to assess the prevalence of myocardial dysfunction and associated biomarkers among children with sepsis in a low resource setting, Malawi. This work involved the writing of a grant proposal and a full IRB protocol, with Dr. Berrens as the principal investigator. In line with his interest in global health, Dr. Berrens also studied career path outcomes among pediatric residents who were involved in the global health tracks of their respective pediatric residencies. This work is expected to inform the future design and realignment of global health tracks in pediatric residency programs. This work has led to the writing of a first author manuscript.

Finally, Dr. Berrens has served as a co-investigator for two clinical studies assessing interleukin-27 as a sepsis diagnostic biomarker.

Invited Presentations

National

Berrens Z, Gomez J, Warrick S, Fitzgerald M, and Schubert C. Global Health After Residency: Post-residency Characteristics of Global Health Track Graduates. Presented at the Association of Pediatric Program Directors, April 2017, Anaheim, California.

Peer-Reviewed Manuscripts

Hanna, WJ, **Berrens Z**, Langner T, Lahni P, and Wong HR. 2015. Interleukin-27: a novel biomarker in predicting bacterial infection among the critically ill. *Critical Care,* 19:378.

Berrens Z, Gomez J, Warrick S, Fitzgerald M, and Schubert C. 2016. Global Health After Residency: Post-residency Characteristics of Global Health Track Graduates.

Service

INTERNATIONAL

Kamuzu Central Hospital	Visiting Consultant	2015-2017

Dzmitry Matsiukevich: 7/1/2014 – 6/30/2017

Location after Fellowship: Children's Memorial Hermann Hospital

Research Experience

Zingarelli Lab: Role of AMP activated protein kinase in myocardial depression during hemorrhagic shock. This work led to two publications of a first author manuscripts. He also presented abstracts at five national meetings.

Honors

06/2016 Finalist for New Investigator Award and Travel Award, 39th Annual Congress on Shock, Texas, June 11-14, 2016. "The AMPK activator AICAR ameliorates age-dependent myocardial injury in murine hemorrhagic shock".

Peer-Reviewed Publications

Matsiukevich D, Piraino G, Klingbeil LR, Hake PW, Wolfe V, O'Connor M, Zingarelli B. The AMPK Activator Aicar Ameliorates Age-Dependent Myocardial Injury in Murine Hemorrhagic Shock. *Shock*. 2017; 47(1):70-78. PMID: 27513082

Matsiukevich D, Piraino G, Hake PW, Wolfe V, Lahni P, O'Connor M, Jeanne James, Zingarelli B. Metformin ameliorates gender- and age-dependent hemodynamic instability and myocardial injury in murine hemorrhagic shock. *Biochim Biophys Acta*. 2017; 1863(10 Pt B):2680-2691; PMID: 28579457

Poster presentations

38th Annual Congress on Shock. Colorado, 6th – 9th June, 2015. "*Age dependent changes of metabolic pathways in the myocardium following murine hemorrhagic shock.*" Dz. Matsiukevich, , Klingbeil L, Piraino G, Hake PW, Zingarelli B. Cincinnati Childrens' Hospital Medical Center, Cincinnati OH.

45th SCCM Annual Congress, Orlando, 20th-24th February, 2016. "Age-dependent changes of AMP-activated kinase pathway in the heart following hemorrhagic shock in mice." Authors: Matsiukevich Dz, Klingbeil L, Piraino G, Wolfe V, Hake PW, Zingarelli B.

39th Annual Congress on Shock. Texas, 6th – 9th June, 2016 *"The AMPK activator AICAR ameliorates age-dependent myocardial injury in murine hemorrhagic shock".* Authors: Matsiukevich Dz, Klingbeil L, Piraino G, Wolfe V, Hake PW, Zingarelli B.

Pediatric Academic Societies Annual Meeting, San Francisco, CA, 6th- 9th May, 2017 "*The AMPK activator metformin ameliorates age but not gender dependent hemodynamic response in murine hemorrhagic shock".*

40th Annual Congress on Shock. Fort Lauderdale, FL, June 3rd – 6th, 2017 "*Metformin ameliorates systemic inflammatory response in female and male mice of mature age during hemorrhagic shock*."