Molecular Medicine

Mollie Medcast
Episode 18 Transcript: CBP, AMI, and Lyme Neuroborreliosis

Hello and thanks for downloading us! Welcome back to "Mollie Medcast," the podcast for the biomedical journal, *Molecular Medicine*. My name is Margot Gallowitsch-Puerta. I'm the Associate Editor here at *Molecular Medicine* and your host for this podcast episode.

Molecular Medicine's mission is to publish novel work that's concerned with understanding the pathogenesis of disease at the molecular level, which may lead to the design of specific molecular tools for diagnosis, treatment and prevention. We introduced our journal in 1994 to serve as a forum through which scientists and researchers could communicate recent discoveries to a multi-disciplinary, international audience interested in understanding and curing disease.

In this week's podcast: "MIF In A Clinical Setting," "Thrombin Receptor May Contribute to AMI," and a review "Lyme Neuroborreliosis: From Infection to Inflammation." Stay tuned at the end of this podcast for an announcement about the Molecular Medicine: Applying Current and Emerging Technologies symposium, taking place at the end of March in Florida.

The first paper in this "Mollie Medcast" podcast episode is:

MIF In A Clinical Setting
Cardiopulmonary bypass (CPB) surgery induces a complex inflammatory reaction that may result in multiorgan dysfunction including cardiac contractile depression. Macrophage migration inhibitory factor, abbreviated MIF, is a central mediator of the innate immune response in patients with autoimmune disorders, severe sepsis, and respiratory distress syndrome. Pediatric cardiac surgery involving cardiopulmonary bypass induces proinflammatory cytokine production, and that correlates with postoperative morbidity and cardiopulmonary dysfunction. Dr. Sanah Merchant and her colleagues measured circulating levels of MIF before and after cardiopulmonary bypass in children. They correlated these findings with intra-operative variables as well as postoperative outcomes. The title of their work is, "Macrophage Migration Inhibitory Factor in Pediatric Patients Undergoing Surgery for Congenital Heart Repair." Their data suggest a potential negative effect of high circulating levels of MIF on respiratory and cardiovascular functions in the immediate postoperative period. This supports the development of therapeutic strategies targeting MIF function in this clinical setting.

The next paper in our line-up this week is:

Thrombin Receptor May Contribute to AMI
Acute myocardial infarction, or AMI, has been a major public health problem for decades. Nearly 1 million patients in the U.S. suffer from acute myocardial infarction annually. While AMI mortality has decreased with the advent of new procedures, it still reaches twenty percent. The mechanism mediating ventricular arrhythmia after acute myocardial infarction remains ambiguous. Dr. Tang and his colleagues in China and Michigan tested the role of thrombin receptor activation in the generation of post-AMI ventricular arrhythmia. Their work is entitled, "Thrombin Receptor and the Ventricular Arrhythmias after Acute Myocardial Infarction." Results indicate that increased thrombin receptor activation and expression in the infarcted left ventricle after acute myocardial infarction may contribute to ventricular arrhythmia through a mechanism involving glibenclamide-sensitive

potassium channels. These findings open the door for new therapeutic targets in acute myocardial infarction.

Lyme Neuroborreliosis: From Infection to Inflammation
Lyme borreliosis is the most common human tick-borne disease in the Northern hemisphere. It's caused by the spirochete Borrelia burgdorferi, which enters the host through a tick bite on the skin. In this review, Dr. Tobias Rupprecht and his authors describe current knowledge regarding the pathogenesis of acute Lyme neuroborreliosis (LNB), from invasion to inflammation of the central system.

Now let me tell you a little bit about a symposium that's taking place at the end of March. It's called,

Molecular Medicine: Applying Current and Emerging Technologies
This is a new educational symposium will be at the Buena Vista Palace in the Walt Disney World Resort®. It will provide and overview of the current and emerging technologies that are changing the patterns of medical practice and moving us towards personalized medicine. Focuses include infections disease, hem/onc, pharmacogenomics and genetics. In conjunction with the symposium's director, Dr. Shahla Masood, we here at *Molecular Medicine* will produce a special focused issue featuring short reviews written by meeting attendees. We look forward to this partnership with the University of Florida and we hope to see you there!

That's it for this week's episode of "Mollie Medcast." You can find these papers and many more on our website, ***www.molmed.org*** that's www.m-o-l-m-e-d.org. If you have any questions or comments regarding this podcast, please send me an email at: margot@molmed.org. If you're taking a coffee break and have a second, check out our podcast webpage www.molmed.org/podcast. You can play around with our frappr map and see where other *Molecular Medicine* readers are coming from. If you have a moment, help us expand our community by adding your own pin to the map. If you're not shy you can even include a photo of yourself. This podcast is available on molmed.org and is up on also up in iTunes. *Molecular Medicine* is published bimonthly by the Feinstein Institute for Medical Research.

From Long Island, New York, this is margot@molmed.org, thanks for listening!

Written and Produced by Margot Gallowitsch-Puerta
Associate Editor, *Molecular Medicine*
Music: Opuzz.com
Photos: iStock

###