Molecular Medicine

Podcast Transcript
Episode 48

Hello *Mollie Medcast* listeners and welcome back. *Mollie Medcast* is the podcast for the biomedical journal, *Molecular Medicine*. My name is Veronica Davis, communications editor here at *Molecular Medicine* and your host for this podcast episode. In this week's podcast we're going to continue with articles from our May-June issue: "Tracking Down An Indicator of Rheumatoid Arthritis", "Matters Of The Heart", and "Understanding NHL Therapy Through Powerhouse Proteomics".

We'll start by taking a minute to remind you about what our goal here is at *Molecular Medicine*. Our 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 disease diagnosis, treatment, and prevention. If you're interested in submitting a manuscript to the journal, please visit our Web site for information, www.molmed.org. Alright, so let's get started with this podcast.

First is:

Tracking Down an Indicator of Rheumatoid Arthritis

The autoimmune disease rheumatoid arthritis (RA) impacts about one percent of the population and can severely reduce quality of life for those affected. In general, RA progresses in three stages. The first stage is the swelling of the synovial lining of the joint. Second is the rapid division and growth of cells, or pannus, which causes the synovium to thicken. In the third stage, the inflamed cells release enzymes that may digest bone and cartilage ultimately leading to loss of movement.[1] Recent RA studies have zeroed in on genetic variability in an immunity hub, the major histocompatability complex (MHC), as an indicator of susceptibility. Dr. Jing Cui and colleagues push detection of RA indicators a step further by performing a genome wide association study using anti-cyclic citrullinated peptide (anti-CCP) as a specific and sensitive biomarker. Through an analysis of anti-CCP titer, the authors confirmed that human leukocyte antigen (HLA) is the most important region for this phenotype. These efforts could have a significant impact on detection of and treatment options for RA.

Next is:

Matters of the Heart

Congestive heart failure (CHF) can be the final result of a series of events including necrosis of the myocardium, coronary artery occlusion and myocardial infarction (MI). Some risk factors for CHF include, high blood pressure, heart valve disease, past heart attack, and congenital heart defects.[2] Until recently it was thought that once cells in the myocardium tissue were damaged, there was no possibility for regeneration. The authors examine the role of IGF expression in myocardium repair following MI in Wistar rats. The authors postulate that the IGF-1 isoforms, IGF-1Ea and MGF-E, each have unique roles to play in myocardial repair processes. This work could ultimately impact clinical options in the immediate aftermath of MI.

And lastly:

Understanding NHL Therapy Through Powerhouse Proteomics

Chemoresistance and chemotoxicity are persistent problems in the treatment of cancers such as non-Hodgkin lymphoma (NHL). Together, they can cause significant morbidity and dis-

comfort in patients and may have negative effects on their long-term health. One specific consequence of these issues is a failure to increase long-term disease free rates in the majority of patients treated for intermediate and high grade NHL. To dissect the mechanism of resistance and toxicity to a commonly used treatment for NHL, Dr. Jiang and colleagues at Shandong University in China mined the mitochondrial proteome to discern the effects of adriamycin (ADR) on global protein expression. Their work could ultimately help predict patient response to therapy and lead to new strategies for the treatment of NHL.

That's it for this week's episode of *Mollie Medcast*. For questions or comments regarding this podcast, please feel free to send me an e-mail at: veronica@molmed.org, that's

m-o-l-m-e-d.org. You can also e-mail me if you have any scientific meetings that you'd like us to display on our Web site.

If you're taking a coffee break and have a moment, check out our podcast webpage molmed.org/podcast. You can play around with our frappr map and view other *Molecular Medicine* users from around the globe. If you're not shy, you can even include a picture of yourself. You can also follow *Mollie Medcast* on Twitter by searching for the user name "MollieMedcast" – all one word.

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