

Molecular Medicine

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Podcast Transcript
Episode 21

Hello everyone and welcome back to “Mollie Medcast,” the podcast for the biomedical journal, *Molecular Medicine*. My name is Margot Puerta. I’m the Associate Editor here at *Molecular Medicine* and your host for this podcast episode. In this week’s podcast: “Apoptosis in Neurodegeneration,” “Extracting Data from ODAM,” and “Cardiomyopathy of Sepsis.”

Let me remind you about what our goal here at *Molecular Medicine* is. 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 used for diagnosis, treatment and prevention. If you are interested in submitting a manuscript to the journal, please visit our website for information, www.molmed.org. Alright, so let’s get started with the papers for this podcast. The first paper in this “Mollie Medcast” episode is:

Apoptosis In Neurodegeneration

Alzheimer’s disease is a progressive neurodegenerative disease characterized by extracellular plaques of amyloid β and intracellular aggregations of tau. So while the exact role of cell death is unclear, apoptosis is increased and caspase-3 is activated in Alzheimer’s disease. Dr. Rita Ramalho from Portugal and her colleagues from Minnesota examined the role of apoptosis in neuronal loss and tau pathology in a mouse model of tauopathy. The paper is titled, “Apoptosis in Transgenic Mice Expressing the P301L Mutated Form of Tau.” Their results showed that caspase-3 cleaved intermediate tau species early in the course of the disease, and preceded cell loss in amyloid β -exposed cultured neurons. This suggests a potential role for apoptosis in neurodegeneration and it underscores the importance of antiapoptotic agents in treating neurodegeneration that’s associated with Alzheimer’s disease and other tauopathies.

Next up...

Extracting Data From ODAM

This paper is our feature article in the May/June issue of mol med, which will be available shortly. But if you like, you can get the free pdf now, online, with no passwords required. Odontogenic ameloblast-associated protein, which is abbreviated ODAM, is highly expressed by mature ameloblasts. It’s present in the enamel organ and junctional epithelial cells of your teeth. But in addition to the role of ODAM in odontogenesis, ODAM is upregulated in human cervical and gastric cancer – both not near your teeth. In this paper, Dr. Daniel Kestler and his colleagues at the University of Tennessee Graduate School of Medicine, generated anti-ODAM antibodies to gain further insight into the potential role of ODAM in tissue development and carcinogenesis. The paper title is, “Expression of Odontogenic Ameloblast-Associated Protein (ODAM) in Dental and Other Epithelial Neoplasms.” Their ODAM-specific antibodies recognize ODAM molecules in ameloblasts, but also in certain normal and neoplastic human epithelial tissues. The results indicate that ODAM is a developmental antigen with an essential role in tooth maturation as well as in the pathogenesis of certain odontogenic and other epithelial neoplasms. ODAM may serve as a prognostic biomarker and a potential diagnostic and therapeutic target for patients with breast and other epithelial forms of cancer.

Last up for this week we have a great review regarding the
Cardiomyopathy Of Sepsis

Septic cardiomyopathy is a well-described complication of severe sepsis and septic shock. However, the

interplay of its underlying mechanisms remains enigmatic. So we're constantly adding to our pathophysiological understanding of septic cardiomyopathy. Various cardiosuppressive mediators have been discovered as have multiple molecular mechanisms, and these include: alterations of myocardial calcium homeostasis, mitochondrial dysfunction and myocardial apoptosis. All of these may be involved in myocardial dysfunction during sepsis. In this review, Dr. Michael Flierl and his colleagues describe the present understanding of systemic, supracellular and molecular mechanisms involved in sepsis-induced myocardial suppression.

That's it for this week's episode of "Mollie Medcast." You can find all these papers and many more of them on our website, www.molmed.org that's www.m-o-l-m-e-d.org. For questions or comments regarding this podcast, feel free to send me an email at: margot@molmed.org.

If you're taking a coffee break, 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 and help us expand our community by adding your pin to the map. If you're not shy you can even include your picture.

This podcast is available on molmed.org and is 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!

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