Molecular Medicine

Podcast Transcript
Episode 40

Hello *Mollie Medcast* listeners and welcome back. *Mollie Medcast* is the podcast for the biomedical journal, *Molecular Medicine*. My name is Margot Puerta. I'm the managing editor here at *Molecular Medicine* and your host for this podcast episode. In this week's podcast we're continuing with articles from our January-February '09 issue: "Human AM/AMBP-1 As A Treatment For Sepsis," "Trapping Ligands With The EGFR Family," and, our second Review & Assess paper, "Antimicrobial Peptides."

Let me take a minute to 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 disease diagnosis, treatment, and prevention. *Molecular Medicine* is a forum where researchers with different backgrounds can come and discuss ways to treat or prevent disease, as long as there's some sort of molecular focus. So, many of our manuscripts contain a broad description of the disease and the severity of it [the disease], the problems related to that field before delving into the specifics related to it. If you're interested in joining our Mol Med community, one of the places you can find us is on Facebook. Search for "Mollie Medcast" and add me as a friend. Alright, so let's get to the papers for this podcast. The first paper we're going to be looking at is:

Human AM/AMBP-1 As A Treatment For Sepsis
Sepsis remains a critical problem and it leads to significant morbidity and mortality. It's the second leading cause of death among patients in noncoronary intensive care units, underscoring the urgent unmet need for effective therapies. Early administration of adrenomedullin, abbreviated AM, and its binding protein, AMBP-1, produce beneficial effects in models of sepsis. In this work, Dr. Wu and his colleagues from the North Shore-LIJ Health System tested whether human AM and human AMBP-1 could exhibit positive effects in a model of sepsis. Results show administration of human AM/AMBP-1 markedly attenuated tissue injury, reduced proinflammatory cytokines, ameliorated intestinal-barrier dysfunction, and improved survival rate. That's a pretty good checklist. This indicates that the combo of AM/AMBP-1 could be further developed as a safe and effective therapy for patients with established sepsis.

If you'd like more information on what sepsis is or to read stories of survival, visit the Sepsis Alliance Web site at: www.sepsisalliance.org. You can check out the transcript on our Web site for the exact spelling of the address.

Our next research paper is:
Trapping Ligands With The EGFR Family
Members of the human epidermal growth factor receptor family, abbreviated HER, play a role in the development of cancer malignancies. Now, there is a lot of diversity within the HER family and this often leads to difficulty when it comes to creating specific therapeutic HER family inhibitors. Dr. Jin and colleagues from Receptor BioLogix Inc in California identified three single amino acid changes in the EGFR and HER3 which create high affinity sequestration of the cognate ligands and may be used as receptor decoys to downregulate aberrant HER family activity. So when they tried this, the increased ligand binding improved inhibition of in vitro tumor

cell proliferation and tumor suppression in a human non-small cell lung cancer xenograft model. These amino acid substitutions enhance ligand affinity and may enable a pan-specific therapeutic approach for downregulating the HER family in cancer.

Okay, so last up for this issue is a Review & Assess paper:
Antimicrobial Peptides
Infectious diseases are the most common cause of death in developing countries. Now, there are effective treatments available for most infections, however, microbial horizontal gene transfer and the misuse of antibiotics leads to antimicrobial resistance. Antimicrobial peptides, a heterogeneous group of molecules, are part of the basic line of defense in innate immunity. Dr. Roland Pálffy and his colleagues from the Slovak Republic review the basic physiology of antimicrobial peptides and their possible therapeutic use against antimicrobial resistance.

That's it for this week's episode of *Mollie Medcast*. You can find all these papers and many more of them on our Web site, www.molmed.org that's www.m-o-l-m-e-d.org. If you have any questions or comments regarding this podcast, send me an email at: margot@molmed.org.

And, if you're interested in getting more involved in the Mol Med community take a look at our podcast page and frappr map, or join Mollie's friends in facebook. 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, where it's freezing cold, this is margot@molmed.org, thanks for listening!

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