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Podcast Transcript
Episode 46

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 summarize a few articles from our May-June issue: "Nicotine To The Rescue: Delaying The Effects Of Ricin", "Nothing But hNET: Assessing And Visualizing An Oncolytic Virus", and our review, "Monoclonal Antibodies For Solid Tumors".

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, www.molmed.org and click on author center for information. Alright, so let's get started with this podcast.

First is:

Nicotine To The Rescue: Delaying The Effects Of Ricin

Ricin, is a compound derived from castor beans. It depurinates ribosomal RNA, disrupting the integrity of the ribosome. This effectively stops protein synthesis in its tracks and leads to inflammation, multiple organ failure, and death in those exposed. While the effects of ricin have long been known, there is still no antidote to counteract them. Since nicotine can reduce inflammation in other contexts, Dr. Jon Mabley and colleagues explored the effects of this alkaloid in mice. The title of the manuscript is, "Activation of the Cholinergic Anti-inflammatory Pathway Reduces Ricin-Induced Mortality and Organ Failure". The author found nicotine retards the effects of ricin through the cholinergic antiinflammatory pathway. They suggest nicotine administration to ricin-exposed patients could provide a greater window of opportunity to apply known, and time-sensitive treatments.

Next is:

Nothing But hNET: Assessing And Visualizing An Oncolytic Virus

In order to enhance long term survival and limit dangerous side effects, the oncology community continues to look for ways to fine-tune the targeting of cancer therapies. Virotherapeutics promise to provide exactly this kind of tissue-specific treatment. However, to ensure proper virus targeting, new methodologies must be developed to allow close monitoring of the viral vector. To minimize the invasiveness of virus and tumor surveillance, Dr. Chen and colleagues presented a novel recombinant form (GLV-1h99) of the vaccinia virus or VACV, an oncolytic virus once used to help eradicate smallpox. After infecting tumor cells, GLV-1h99 promotes cell surface expression of the human norepinephrine transporter (hNET), which facilitates tumor uptake of a radiolabeled tracer that can be visualized non-invasively. These findings present a new way to follow the in vivo progress of virotherapeutics, shedding needed light on treatment efficacy.

And lastly, our review and assess article:

Monoclonal Antibodies For Solid Tumors

Molecular biology has played a major role in the development of treatments for solid tumors over the last

few years, including the rising use of antibody-based therapies. Several humanized and chimeric monoclonal antibodies targeting HER2, EGFR, and VEGF have been employed in treating solid tumors – including breast, colorectal, lung, head and neck, and gynecologic cancers. Doctors Argyriou and Kalofonos review the recent advances in clinical data regarding antibody-based therapies in the management of solid tumors, and discuss perspectives on the future of antibody-based therapeutics.

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.

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 veronica@molmed.org, thanks for listening!

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