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Podcast Transcript
Episode 39

Hello *Mollie Medcast* listeners and welcome back. *Mollie Medcast* is the podcast for the biomedical journal, *Molecular Medicine*. My name is Veronica Davis. I'm the assistant editor here at *Molecular Medicine* and your host for this podcast episode. In this week's podcast we're going to get into articles from our January-February issue: "Smoking Cessation Genes," "Transcriptional Control In Chronic Fatigue Syndrome," and, one of our Review & Assess papers, "Melatonin For Clinical Trials."

Let me take a minute to remind you here about what our goal 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 website for information, www.molmed.org. Alright, so let's get started with the papers in this podcast. The first paper in this *Mollie Medcast* episode is:

Smoking Cessation Genes

So approximately 45 million adults in the US smoke cigarettes, that's about 21% of all adults.¹ Vulnerability to dependence on addictive substances, such as nicotine, is a complex trait with strong genetic influences. It has been well documented by data from families, and adoption and twin studies. In this work, Dr. Tomas Drgon and colleagues at the National Institutes of Health report results from a genome-wide association study involving 480 volunteers. The volunteers reported smoking histories, symptoms of nicotine dependence, and ability to successfully quit smoking without the help of a clinical trial. Data from these volunteers support the idea that studies of genes associated with smoking cessation success in clinical trial participants may also apply to smokers who are able to initiate and sustain abstinence outside of clinical trials. This data provides the basis for improved understanding of addiction and for development of personalized prevention and treatment strategies.

The next paper is:

Transcriptional Control In Chronic Fatigue Syndrome

Chronic fatigue syndrome, or CFS, includes symptoms such as (but not limited to): sore throat; tender lymph nodes; muscle pain; multi-joint pain; and sleeping without feeling refreshed.² It's been difficult to identify diagnostic markers for chronic fatigue syndrome because the disorder is identified by self-reported symptoms and exclusionary conditions. Complement activation has been found in subjects with CFS, specifically, increased C4a following exercise. Dr. Bristol Sorensen and colleagues at the Center for Disease Control in Georgia investigated the transcriptional control of C4a in subjects with chronic fatigue syndrome, post-exercise. C4a generation via the lectin pathway results from C4 cleavage by mannan-binding lectin serine protease 2 (MASP2). Results from Dr. Sorensen and colleagues suggest that MASP2 down-regulation may act as an antiinflammatory acute-phase response in healthy subjects. The elevated level of MASP2 in chronic fatigue syndrome subjects may account for increased C4a and inflammation-mediated post-exertional malaise in CFS subjects.

The last paper in this *Mollie Medcast* episode is:

Melatonin For Clinical Trials

Oxidative stress plays a key role in the pathogenesis of aging and many metabolic diseases. More than half of

the American population is aware of antiaging therapies and currently use them in some form. Melatonin, a multifunctional indolamine, is easily synthesized in a pharmacologically pure form, counteracts most pathophysiologic steps, and displays significant beneficial actions against peroxynitrite-induced cellular toxicity. Dr. Ahmet Korkmaz and his colleagues in Texas, as well as overseas in Turkey, discuss melatonin's potential for treatment of oxidative stress due to its antioxidative and antiinflammatory properties.

That's it for this week's episode of *Mollie Medcast*. Join us next time when we discuss "Human AM/AMBP-1 As A Treatment For Sepsis," "Trapping Ligands With The EGFR Family," and, "Antimicrobial Peptides." 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, please feel free to send me an email at: veronica@molmed.org.

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 see where other *Molecular Medicine* readers are coming from. I've got my pin up there with a picture too; help us expand our community by adding your very own pin to the map. And, if you're not shy you can even include a picture of yourself. 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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