

Molecular Medicine

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*The Feinstein Institute for Medical Research
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Podcast Transcript Episode 82

Hello, *Mollie Medcast* listeners, and welcome back to the podcast! *Mollie Medcast* is the podcast for the biomedical journal, *Molecular Medicine*. My name is Margot Puerta, Managing Editor here at *Molecular Medicine* and I'll be your host for this podcast episode. In this week's podcast we'll take a look at some papers from our November-December 2010 issue: "Muscle Out Myositis With Resistance Exercise", "GWA In Smoking Cessation," and a review on acute chronic arthritis.

We'll start by taking a minute to review our goal here at *Molecular Medicine*. Since 1994, our mission has been 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.mol-med.org. Ok, onto the podcast.

First up is:

Muscle Out Myositis With Resistance Exercise

Polymyositis and dermatomyositis are chronic, autoimmune skeletal muscle disorders characterized by weakness, infiltration by mononuclear inflammatory cells and fibrosis. Despite current pharmacological treatment many patients are left with impaired muscle function. While recent studies have shown moderate exercise training in combination with immunosuppressive drugs may improve muscle performance, the molecular mechanisms underlying the exercise-associated clinical improvements remain poorly understood. In the present study, Dr. Gustavo Nader and colleagues in the United States and Sweden investigate the underlying mechanisms responsible for the beneficial effects of resistance exercise in autoimmune inflammatory myopathy patients using genome wide mRNA profiles. The title of the paper is, "A Longitudinal, Integrated, Clinical, Histological and mRNA Profiling Study of Resistance Exercise in Myositis." Changes in gene expression reported are in agreement with performance improvements induced by exercise and suggest resistance exercise training can induce a reduction in inflammation and fibrosis in skeletal muscle. High-throughput analysis of skeletal muscle gene expression may provide useful information for identification of new disease biomarkers and targets for pharmacological intervention of autoimmune inflammatory myopathy patients.

Next, we'll go over:

GWA In Smoking Cessation

Cigarette smoking is a significant cause of premature death and disease. Although abstinence reduces risks to smokers, success rates following attempts to quit smoking remain modest. One year after unaided attempts to quit smoking, abstinence rates are less than 5%. In the current study, Dr. George Uhl and colleagues report genome wide association studies of smoking cessation success in individually-genotyped European-American participants in a smoking cessation trial that examined effects of pre-cessation nicotine replacement therapy. The title of the paper is, "Genome-Wide Association for Smoking Cessation Success in a Trial of Precessation Nicotine Replacement." Results identified a set of single nucleotide polymorphisms (or SNPs) that overlap with prior datasets and likely identify a network of SNPs and genes with true biological relationships. Most of these genes are expressed in the brain and are related to neurotransmission processes, as may be expected for addic-

tion-related traits. These results add to support for personalized approaches to smoking cessation treatment and contribute to studies that document molecular genetic contributions to the ability to quit smoking.

Lastly:

Transitioning From Acute To Chronic Arthritis

Tumor necrosis factor is the major target of therapeutic approaches in rheumatoid arthritis. A key issue in chronic arthritis is understanding the crucial molecules driving the transition from the acute phase to the chronic irreversible phase of the disease. In this review, Dr. Gianfranco [Ferraccioli] and colleagues examine five experimental models of rheumatoid arthritis and review the cytokines necessary for driving the condition from the acute to the chronic phase.

And that's it for this week's episode of *Mollie Medcast*. Join us next time when we bring you clips from the Merinoff Symposium 2010: SEPSIS. For questions or comments regarding this podcast, please feel free to send me an e-mail at: margot@molmed.org, that's m-a-r-g-o-t(at)m-o-l-m-e-d.org. You can also keep up with the journal by following us on Facebook at www.facebook.com/molmed and on Twitter (@mol[underscore]med).

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From New York, this is margot@molmed.org, thanks for listening!

Produced and written by Margot Puerta
Managing Editor, *Molecular Medicine*

Contributions by Jeffrey Rosenfeld and Hardik Patel
Volunteer Associate Editors, *Molecular Medicine*

Edited by Veronica J Davis
Communications Editor, *Molecular Medicine*

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