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Podcast Transcript
Episode 43

Hello *Mollie Medcast* listeners and welcome back. *Mollie Medcast* is the podcast for the biomedical journal, *Molecular Medicine*. My name is Veronica Davis, assistant editor here at *Molecular Medicine* and I'll be hosting this podcast episode. In this week's podcast we're going to discuss a few of our March-April articles: "Turning A Blind Eye With Ectoenzymes"; "All In The Family: Alzheimer's Disease"; and a review, "Malignant Gliomas Rack The Brain."

First, let me start off by telling you our mission. *Molecular Medicine's* 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. All of our papers are available free online on our website, without passwords or logins, at www.molmed.org. Alright, so let's get started with the papers in this podcast.

The first paper in this Mollie Medcast episode is:

Turning A Blind Eye With Ectoenzymes

The cornea, which is part of the eye, is avascular and transparent. The reason the cornea has no blood vessels is because they would interfere with how the eye refracts light, altering our vision.¹ Fluctuations in cell regulatory processes of the eye may lead to blindness, but little is known about these pathological changes. Nicotinamide adenine dinucleotide (or NAD⁺), is a precursor of molecules involved in cell regulatory processes. NAD⁺ is released in extracellular compartments after stress or inflammation. Dr. Alberto Horenstein and colleagues at the University of Torino Medical School investigated expression in the human cornea of CD38 and CD157, two NAD⁺-consuming ectoenzymes and surface receptors. The title of their paper is, "CD38 and CD157 Ectoenzymes Mark Cell Subsets in the Human Corneal Limbus." Results show the normal human cornea is equipped with a molecular tool to actively metabolize NAD⁺. This helps to maintain corneal homeostasis. The presence of these ectoenzymes may pave the way for drug design to control wound repair.

Our next paper is:

All In The Family: Alzheimer's Disease

Alzheimer's disease (or AD) is characterized clinically by progressive cognitive impairment, and pathologically by the presence of β -amyloid (A β) plaques and neurofibrillary tangles. People with enriched family histories of Alzheimer's disease-like dementia may be a high-risk population for development of this disease. This makes them an ideal group for evaluation of vascular risk factors of Alzheimer's disease and blood A β levels. Dr. Laila Abdullah, and colleagues at both the Roskamp Institute and London School of Hygiene and Tropical Medicine, examined the potential association between serum A β levels and vascular risk factors among cognitively normal first-degree relatives of patients with Alzheimer's disease or related dementia. The title of their manuscript is, "High Serum A β and Vascular Risk Factors in First-Degree Relatives of Alzheimer's Disease Patients." Findings suggest that high A β in the periphery among the family history-enriched cohorts may be due to enrichment of vascular risk factors. This may also reflect presymptomatic Alzheimer's disease pathology. Longitudinal

evaluation of blood A β in this cohort will provide a better understanding of the significance of this association in Alzheimer's disease etiology.

Malignant Gliomas Rack The Brain

Malignant gliomas are the most common primary brain tumors. The prognosis for patients remains poor, with a median survival time of up to 3 years. Conventional treatment includes surgical resection and fractionated radiation therapy of the tumor and surrounding brain parenchyma. This is followed by chemotherapy with alkylating compounds. Doctors Andreas Argyriou and Kalofonos from University Hospital in Greece review molecular therapies for malignant gliomas and discuss advances in the molecular and genetic pathogenesis of these lethal brain malignancies.

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. For questions or comments regarding this podcast, please feel free to send me an e-mail 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 view other *Molecular Medicine* users from around the globe. 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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References

1. National Eye Institute, <http://www.nei.nih.gov/health/cornealdisease/#0>, Accessed February 10, 2009