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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'll take a look at two primary research papers and one review from our upcoming issue. The papers are called: "ISO-1 in Chronic Asthma," "Mediators Of Bilirubin-Induced Neurotoxicity," and the review paper is "Stem Cell Transplantation in Brain Tumors: A New Field for Molecular Imaging."

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](http://www.mol-med.org). Ok, let's get started with this podcast.

**ISO-1 In Chronic Asthma**

Asthmatic airway remodeling, characterized by structural and morphometric changes of the airway epithelium, is believed to be the result of chronic inflammation in the bronchial wall. Since macrophage migration inhibitory factor (or MIF) is required for allergic asthma, Dr. Pei-Fen Chen and colleagues from both China and the United States investigated its effects on the development of airway remodeling using a small molecule MIF antagonist called ISO-1. The title of the paper is "ISO-1, an MIF Antagonist, Inhibits Airway Remodeling in a Murine Model of Chronic Asthma." Results demonstrate MIF small-molecule antagonism has significant anti-inflammatory effects on allergen-induced lung inflammation and can prevent changes in airway remodeling in experimental models. This suggests that MIF antagonism may be an attractive alternative therapy for asthmatic patients.

Our second research paper for this podcast is:

**Mediators Of Bilirubin-Induced Neurotoxicity**

Hyperbilirubinemia, or increased levels of bilirubin in the blood, may lead to neurotoxicity and neuronal death. Although the mechanisms of nerve cell damage by unconjugated bilirubin [UCB] appear to involve a disruption of redox status and excitotoxicity, the contribution of nitric oxide (NO) and N-methyl-D-aspartate (NMDA) glutamate receptors is unclear. Therefore, Dr. Mario Brito and colleagues from the University of Lisbon in Portugal, investigated the role of NO and NMDA glutamate receptors in unconjugated bilirubin neurotoxicity. The title of their paper is, "N-methyl-D-Aspartate Receptor and Neuronal Nitric Oxide Synthase Activation Mediate Bilirubin-Induced Neurotoxicity." Results reinforce the involvement of oxidative stress and data highlight important steps in neuronal oxidative damage by unconjugated bilirubin. Inhibitors and receptor antagonists may represent therapeutic tools to reduce risk associated with oxidative stress and neurotoxicity in unconjugated hyperbilirubinemia.

Last up for this podcast episode is our review paper:

**Stem Cell Transplantation in Brain Tumors: A New Field for Molecular Imaging?**

Neural stem cells have the potential to become a new and promising treatment modality in different pathologies of the central nervous system, including malignant brain tumors. Novel therapies to eliminate these tumors are already aided by current stem cell research and stem cell regulation monitored by molecular imaging. In this review, titled “Stem Cell Transplantation in Brain Tumors: A New Field for Molecular Imaging?”, Drs. Sandu and Schaller from the University of Lausanne in Switzerland describe the current molecular imaging techniques used on neural stem cells affected by therapeutic experimental brain tumor models.

And 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: [margot@molmed.org](mailto: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 and Twitter (@mol\_med). This podcast is available on [molmed.org](http://molmed.org) and is up in iTunes, just type “Mollie Medcast” in the search bar. If you’ve enjoyed this podcast, leave us a review, or rate it in iTunes. *Molecular Medicine* is published bimonthly by The Feinstein Institute for Medical Research.

From New York, this is [margot@molmed.org](mailto:margot@molmed.org), thanks for listening!

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