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Liver Digest

A weekly update of PLRC happenings

February 14, 2019



www.livercenter.pitt.edu

Featured Faculty - Dr. Ruben Zamora

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Next Week's Seminars

For a complete list of upcoming PLRC seminars, please visit our website: <http://www.livercenter.pitt.edu/events>

Liver Cancer Conference - March 9

Community Liver Alliance Liver Cancer Conference
Saturday, March 9, 2019 | 7:30 a.m. - 3:00 p.m.
Wyndham Grand Hotel, Pittsburgh, PA
CME Accredited

For schedule, speakers, and details, please visit the PLRC website:
<http://www.livercenter.pitt.edu/livercancer-conference>

To register, please visit the CLA website:
<http://www.communityliveralliance.org/liver-cancerconference>

Liver-Themed Gut Club - May 2

Dr. Fasiha Kanwal, the division chief at Baylor, will speak at the May 2, 2019 Pittsburgh Gut Club accredited dinner/lecture series on "The Changing Epidemiology of Liver Cancer."

Liver-related clinical and research trainees are invited to attend the lecture with fee-waived registration. All faculty are invited to attend as well but are required to pay to attend. But, they welcome your trainees as fee-waived participants.

To register for this event, please complete the registration form found in the brochure available on the here (trainees mark "fee waived" in the payment section), and scan (joj2@pitt.edu) or fax (412-578-9537) it to Joy Merusi by April 15th.

Faculty Highlights

Original Article:

Nicholas K.H. Khooa, Marco Fazzaria, Dionysios V. Chartoumpékisa, Lihua Lia, Danielle Aparecida Guimaraes, **Gavin E. Arteel**, Sruti Shivaa, Bruce A. Freeman. Electrophilic nitro-oleic acid reverses obesity-induced hepatic steatosis. *Redox Biology*. Available online 1 February 2019.

ABSTRACT

Non-alcoholic fatty liver disease (NAFLD) is linked to obesity and insulin resistance and is the most prevalent chronic liver disease. During the development of obesity and NAFLD, mitochondria adapt to the increased lipid load in hepatocytes by increasing the rate of fatty acid oxidation. In concert with this, reactive species (RS) generation is increased, damaging hepatocytes and inducing inflammation. Hepatic mitochondrial dysfunction is central to the pathogenesis of NAFLD via undefined mechanisms. There are no FDA approved treatments for NAFLD other than weight loss and management of glucose tolerance. Electrophilic nitro-oleic acid (NO₂-OA) displays anti-inflammatory and antioxidant signaling actions, thus

mitochondrial dysfunction, RS production and inflammatory responses to NO₂-OA and the insulin sensitizer rosiglitazone were evaluated in a murine model of insulin resistance and NAFLD. Mice on HFD for 20 wk displayed increased adiposity, insulin resistance and hepatic lipid accumulation (steatosis) compared to mice on normal chow (NC). The HFD mice had mitochondrial dysfunction characterized by lower hepatic mitochondrial complex I, IV and V activity compared to mice on NC. Treatment with NO₂-OA or rosiglitazone for the last 42 days (out of 20 wk) abrogated HFD-mediated decreases in hepatic mitochondrial complex I, IV and V activity. Notably, NO₂-OA treatment normalized hepatic triglyceride levels and significantly reversed hepatic steatosis. Despite the improved glucose tolerance observed upon rosiglitazone treatment, liver weight and hepatic triglycerides were significantly increased over vehicle-treated HFD mice. These observations support that the pleiotropic signaling actions of electrophilic fatty acids limit the complex hepatic and systemic pathogenic responses instigated by obesity, without the adverse effects of thiazolidinedione drugs such as rosiglitazone.

For full text, please [click here](#).

Please continue to send us your recent publications, grants, and any awards you receive!

Funding Opportunities

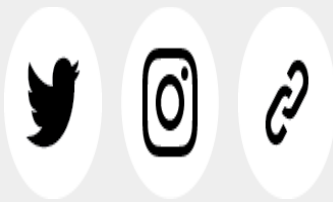
PLRC Pilot & Feasibility Grants

The Pittsburgh Liver Research Center is pleased to announce the 2019 Request for Applications for Pilot/Feasibility Grants. The grants will fund new initiatives and/or support new investigators who are pursuing liver-related research that should lead to R01-type funding or other extramural support at a later date. **LOI deadline - February 15, 2019.**

Coulter - PLRC Joint Award

The University of Pittsburgh & UPMC Pittsburgh Liver Research Center (PLRC) is pleased to announce a new translational grant program in collaboration with the Coulter TPII Program (Coulter) at the University of Pittsburgh. In September of 2019, the PLRC/Coulter will award up to one \$50,000 grant, aimed at developing the commercial potential of healthcare solutions that are based on innovative technologies related to liver health, including disease diagnosis, surgery, treatment, and public health.

One-Page LOI Submission: Deadline - 5:00 p.m. Friday, March 15, 2019.



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