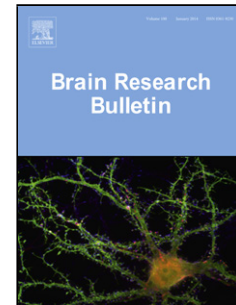


Accepted Manuscript

Title: Alterations in nociception and morphine antinociception in mice fed a high-fat diet

Authors: Caitlin M. Nealon, Chandni Patel, Beth L. Worley, Angela N. Henderson-Redmond, Daniel J. Morgan, Traci A. Czyzyk



PII: S0361-9230(17)30257-5
DOI: <http://dx.doi.org/doi:10.1016/j.brainresbull.2017.06.019>
Reference: BRB 9249

To appear in: *Brain Research Bulletin*

Received date: 5-5-2017
Revised date: 29-6-2017
Accepted date: 29-6-2017

Please cite this article as: Caitlin M. Nealon, Chandni Patel, Beth L. Worley, Angela N. Henderson-Redmond, Daniel J. Morgan, Traci A. Czyzyk, Alterations in nociception and morphine antinociception in mice fed a high-fat diet, *Brain Research Bulletin* <http://dx.doi.org/10.1016/j.brainresbull.2017.06.019>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Alterations in nociception and morphine antinociception in mice fed a high-fat diet

Caitlin M. Nealon^{1,2}, Chandni Patel¹, Beth L. Worley^{1,2}, Angela N. Henderson-Redmond¹, Daniel J. Morgan^{1,3,4}, Traci A. Czyzyk^{1,4†}

¹Department of Anesthesiology and Perioperative Medicine, ²Biomedical Sciences Graduate Program, ³Department of Pharmacology, ⁴Department of Neural and Behavioral Sciences, Penn State College of Medicine, Hershey, PA, 17033, USA.

† To whom correspondence should be sent: tczyzyk@pennstatehealth.psu.edu
Mail code H187, Room C2811, 500 University Drive, Hershey, PA 17033.

Highlights:

- Females are less responsive to the antinociceptive effects of morphine than male littermates.
- HED increases tolerance to the antinociceptive effects of morphine on acute thermal pain.
- HED exposure reduces morphine antinociception in an inflammatory pain model.
- Male mice fed HED are resistant to the hypothermic effects of acute morphine.
- Dietary modifications may be relevant for pain therapy.

Abstract

Currently, more than 78.6 million adults in the United States are obese. A majority of the patient population receiving treatment for pain symptoms is derived from this subpopulation. Environmental factors, including the increased availability of food high in fat and sugar, contribute to the continued rise in the rates of obesity. The focus of this study was to investigate whether long-term exposure to a high-fat, energy-dense diet enhances baseline thermal and inflammatory nociception while reducing sensitivity to morphine-induced antinociception. Antinociceptive and hypothermic responses to morphine were determined in male and female

Download English Version:

<https://daneshyari.com/en/article/8838960>

Download Persian Version:

<https://daneshyari.com/article/8838960>

[Daneshyari.com](https://daneshyari.com)