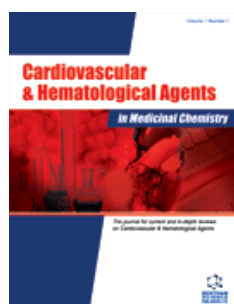




(/)

Search for...

Q Search

Search in: All Article Chapter Book

Purchase PDF

Research Article

Effects of Some Indigenous Plants of North Karnataka (India) on Cardiovascular and Glucose Regulatory Systems in Alloxan-Induced Diabetic Rats

Author(s): Kusal K. Das*, Kailash S. Chadchan, R. Chandramouli Reddy, M. S. Biradar, Pallavi S. Kanthe, Bheemshetty S. Patil, Jeevan G. Ambekar, Ishwar B. Bagoji, Swastika Das.

Journal Name: Cardiovascular & Hematological Agents in Medicinal Chemistry
(Formerly Current Medicinal Chemistry - Cardiovascular & Hematological Agents)

Volume 15 , Issue 1 , 2017

DOI : 10.2174/1871525715666170712121347 (<https://doi.org/10.2174/1871525715666170712121347>)

[Journal Home \(/node/597\)](#)

Become an Editorial Board Member

Register Here

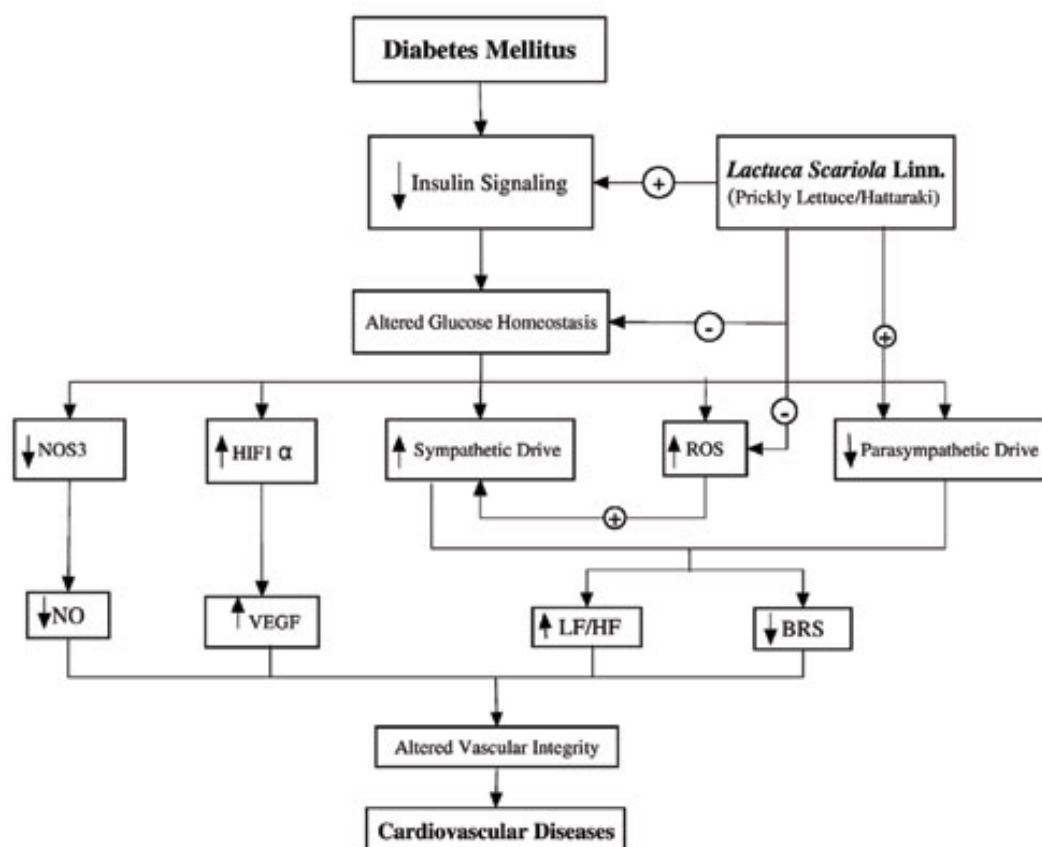
(<http://www.eurekaselect.com/node/597/cardiovascular-hematological-agents-in-medicinal-chemistry-/become-ebm-form/eabm>)

Become a Reviewer

Register Here

(<http://www.eurekaselect.com/node/597/cardiovascular-hematological-agents-in-medicinal-chemistry-/become-ebm-form/reviewer>)

Graphical Abstract:



Abstract:

Background: Kenaf (*Hibiscus cannabinus* Linn, Pundi), Chick pea (*Cicer arietinum* Linn, Chana) and Prickly lettuce (*Lactuca scariola* Linn, Hattaraki) leaves are a few of indigenous plants which are routinely consumed by the people of north Karnataka in the diet. Studies on these plants showed some potential anti-diabetic efficacies.

Objectives: To examine the effect of leaves extracts of *Hibiscus cannabinus* Linn, *Cicer arietinum* Linn and *Lactuca scariola* Linn on cardiovascular integrity, glucose homeostasis and oxygen sensing cell signaling mechanisms in alloxan induced diabetic rats.

Method: In vitro and in vivo tests on glucose regulatory systems and molecular markers such as - NOS3, HIF- 1 α and VEGF were conducted in alloxan induced diabetic rats supplemented with all the three plant extracts. Electrophysiological analysis (HRV, LF: HF ratio, baroreflex sensitivity, BRS) and histopathology of myocardial tissues and elastic artery were evaluated in diabetic rats treated with *L. scariola* linn.

Results: Out of these three plant extracts, *Lactuca scariola* Linn supplementation showed significant beneficial effects on glucose homeostasis and oxygen sensing cell signaling pathways in alloxan-induced diabetic rats. Furthermore, effects of sub chronic supplementation of *Lactuca scariola* Linn aqueous extracts showed significant improvement in sympatho-vagal balance in diabetic rats by

increase of Heart Rate Variability (HRV) and regaining of Baroreflex Sensitivity (BRS). These results were also corroborated with myocardial and elastic artery histopathology of *Lactuca scariola* Linn supplemented diabetic rats.

Conclusion: These findings indicate an adaptive pathway for glucose homeostasis, oxygen sensing cell signaling mechanisms and cardio protective actions in alloxan – induced diabetic rats supplemented with *Lactuca scariola* Linn extracts.

Keywords: North Karnataka (India) Plants, *Hibiscus cannabinus* Linn, *Cicer aritinum* Linn, *Lactuca scariola* Linn, glucose homeostasis, HIF-1 α , VEGF, HRV, BRS, histopathology of artery.

[Mark Item](#)[Purchase PDF](#)[Rights & Permissions](#)[Print](#)[Export](#)[Cite as](#)

Other

Article Details

VOLUME: 15

ISSUE: 1

Year: 2017

Page: [49 - 61]

Pages: 13

DOI: 10.2174/1871525715666170712121347

(<https://doi.org/10.2174/1871525715666170712121347>)

Price: \$65

Article Metrics

PDF: 27

HTML: 3

EPUB: 1

PRC: 1

Related Article(s)

Cerebral Hypoperfusion During Carotid Artery Stenosis can Lead to Cognitive Deficits that may be Independent of White Matter Lesion Load (<http://www.eurekaselect.com/node/100236/?tracking-code=4>)

Current Neurovascular Research

Contextualizing Genetics for Regional Heart Failure Care (<http://www.eurekaselect.com/node/142978/?tracking-code=4>)

Current Cardiology Reviews

The Incidence of Adverse Drug Reactions in Patients Treated with Statins in the Emirates: A Retrospective Cohort Study (<http://www.eurekaselect.com/node/171453/?tracking-code=4>)

Current Vascular Pharmacology

Assessment of Cardiac Sympathetic Innervation in Heart Failure and Lethal Arrhythmias: Therapeutic and Prognostic Implications (<http://www.eurekaselect.com/node/61029/?tracking-code=4>)

Current Cardiology Reviews

Impact of 13Valent Vaccine for Prevention of Pneumococcal Diseases in Children and Adults at Risk: Possible Scenarios in Campania Region (<http://www.eurekaselect.com/node/164796/?tracking-code=4>)

Infectious Disorders - Drug Targets

The Multiple Roles of Vitamin D in Human Health. A Mini-Review (<http://www.eurekaselect.com/node/88607/?tracking-code=4>)

Immunology, Endocrine & Metabolic Agents in Medicinal Chemistry (Under Re-organization)

Neuroprotection Abilities of Cytosolic Phospholipase A2 Inhibitors in Kainic acid-induced Neurodegeneration (<http://www.eurekaselect.com/node/90974/?tracking-code=4>)

Current Drug Targets - Cardiovascular & Hematological Disorders

Targeting Extracellular Matrix Proteolysis for Hemorrhagic Complications of tPA Stroke Therapy (<http://www.eurekaselect.com/node/92756/?tracking-code=4>)

CNS & Neurological Disorders - Drug Targets

Preface (<http://www.eurekaselect.com/node/105512/?tracking-code=4>)

Current Vascular Pharmacology

Phosphoinositide 3-Kinases as Targets for Therapeutic Intervention (<http://www.eurekaselect.com/node/61900/?tracking-code=4>)

Current Pharmaceutical Design

Most Downloaded Article(s)

Thiopurine S-Methyltransferase as a Pharmacogenetic Biomarker: Significance of Testing and Review of Major Methods (<http://www.eurekaselect.com/node/152738/?tracking-code=4>)

Cardiovascular & Hematological Agents in Medicinal Chemistry

Pathophysiology of Atherosclerotic Plaque Development (<http://www.eurekaselect.com/node/127056/?tracking-code=4>)

Cardiovascular & Hematological Agents in Medicinal Chemistry

Entresto, a New Panacea for Heart Failure? (<http://www.eurekaselect.com/node/160426/?tracking-code=4>)

Cardiovascular & Hematological Agents in Medicinal Chemistry

Recommendations for the Treatment of Hypertension in Elderly People

(<http://www.eurekaselect.com/node/129340/?tracking-code=4>)

Cardiovascular & Hematological Agents in Medicinal Chemistry

Atrial Fibrillation: Epidemiology and Peculiarities in the Elderly

(<http://www.eurekaselect.com/node/134852/?tracking-code=4>)

Cardiovascular & Hematological Agents in Medicinal Chemistry

Pathophysiology of Myocardial Infarction and Acute Management Strategies

(<http://www.eurekaselect.com/node/148411/?tracking-code=4>)

Cardiovascular & Hematological Agents in Medicinal Chemistry

Artificial Blood: A Futuristic Dimension of Modern Day Transfusion Sciences

(<http://www.eurekaselect.com/node/172607/?tracking-code=4>)

Cardiovascular & Hematological Agents in Medicinal Chemistry

Calcium Channel Blockers in the Management of Hypertension in the Elderly

(<http://www.eurekaselect.com/node/129344/?tracking-code=4>)

Cardiovascular & Hematological Agents in Medicinal Chemistry

The Superior Mesenteric Artery: From Syndrome in the Young to Vascular Atherosclerosis in the Old

(<http://www.eurekaselect.com/node/175020/?tracking-code=4>)

Cardiovascular & Hematological Agents in Medicinal Chemistry

Lifestyle Changes and Surgical Treatment for Hypertension in the Elderly

(<http://www.eurekaselect.com/node/129341/?tracking-code=4>)

Cardiovascular & Hematological Agents in Medicinal Chemistry

(</terms/termandcondition.html?1>)

© 2019 Bentham Science Publishers (<http://www.eurekaselect.com/136826/page/terms-and-conditions>) | Privacy Policy (<http://www.eurekaselect.com/180856/page/bentham-science-privacy-notice-may-2018>)



(<https://www.projectcounter.org/counter-user/bentham-science/>)