

عنوان مقاله:

Methanol Extract of Basella Alba Leaf Enhances Glucose Utilization in Nicotine Treated Male Wistar Rats

محل انتشار:

مجله سم شناسی پزشکی آسیا اقیانوسیه, دوره 11, شماره 3 (سال: 1401)

تعداد صفحات اصل مقاله: 8

نویسندگان:

Dennis Arokoyo - *Department of Physiology, College of Health Sciences, Osun State University, Osogbo, Osun State*

Jeremiah Idowu - *Department of Physiology, Faculty of Basic Medical and Health Sciences, College of Health Sciences, Bowen University, Iwo, Osun State, Nigeria*

Olubayode Bamidele - *Department of Physiology, Faculty of Basic Medical and Health Sciences, College of Health Sciences, Bowen University, Iwo, Osun State, Nigeria*

خلاصه مقاله:

Background: Nicotine has been reported to exert adverse effects on insulin sensitivity, predispose individuals to metabolic syndrome, and induce decreased functionality of the pancreas. The present study evaluated the influence of methanol extract of Basella Alba leaf on glucose utilization in nicotine treated male Wistar rats. Methods: Twenty male rats, weighing 200-240g were divided into four groups of five animals each as follows; Healthy Control (H-C) rats, which were given no treatment but placebo, Nicotine Control (N-C), which received 1.0 mg/kg of nicotine, Low Dose Nicotine + Basella Alba group (LDN-Ba), which received 0.5 mg/kg nicotine and 200mg/kg of MeBa, and High Dose Nicotine + Basella Alba group (HDN-Ba) that were given 1.0 mg/kg of nicotine and 200 mg/kg of MeBa. Results: Following acute nicotine exposure, FBG levels were significantly higher ($p < 0.05$) in NC, LDN-B and HDN-B rats when compared to H-C. Likewise, OGTT showed a significant ($p < 0.05$) derangement in N-C and HDN-B when compared to HC and LDN-B groups. Body weight, weight and relative weight of pancreas were significantly decreased ($p < 0.05$) in all nicotine treated groups when compared to the healthy control group. Histopathology also revealed general distortion of pancreatic histoarchitecture in the nicotine control rats. A significant decrease ($p < 0.05$) in the blood glucose level and improved OGTT was observed in LDN-B rats after four weeks treatment with Basella Alba compared with N-C. Conclusion: The findings revealed that the dysfunction in glucose metabolism caused by nicotine toxicity is dose dependent and the administration of methanol extract of Basella Alba leaf ameliorate these effects to a greater extent in low dose than in high dose nicotine group.

کلمات کلیدی:

Methanol extract, Basella Alba, Glucose Utilization, Nicotine

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1545148>



