

Methanolic extract of *Maytenus procumbens* roots ameliorates erectile dysfunction in fructose-streptozotocin induced type 2 diabetes in rats

Nkosinathi D Cele

Department of Biochemistry and Microbiology, Department of Agriculture, University of Zululand, Private Bag X1001, KwaDlangezwa 3886, South Africa.

Abstract

Erectile dysfunction (ED) due to diabetes mellitus remains difficult to treat despite advances in pharmacotherapeutic approaches in the field. Therefore, this study investigated the erectogenic effect of the methanolic extract of *Maytenus procumbens* on type 2 diabetes in rats. The fructose-streptozotocin model was used to induce type 2 diabetes-linked ED in male rats. The sexually active rats were randomly divided into two major groups; normal group and high fructose fed group for 120 days. After 120 days, the high fructose fed group rats were given a single intraperitoneal injection of a freshly prepared streptozotocin solution (30 mg/kg). The diabetic ED rats were orally administered with the extract at 250 mg/kg, daily for 28 days. The serum, brain and penile tissues were removed for biochemical analysis and protein expression. Increased testosterone level, mounting frequency, reduced blood glucose level and serum fructosamine content were observed after 28 days of treatment in diabetic rats. Methanolic extract also exhibited an inhibitory effect on arginase, AChE and ACE activities. The crude extract further downregulated proteins PDE-5, RhoA and increased expression of eNOS in the diabetic ED treated rats. The results obtained indicate that the methanolic extract of *Maytenus procumbens* roots ameliorates erectile dysfunction in type 2 diabetic induced erectile dysfunction in rats.

Biography

Nkosinathi David Cele has completed his PhD from University of Zululand, South Africa and currently busy with Postdoctoral studies from South African Medical Research Council (SAMRC). He has published more than 05 papers in reputed journals.

Presenting author details

Full name: Nkosinathi David Cele

Contact number: +27719506648

Twitter account: N/A

Linked In account: nathynd.cele@gmail.com

Session name/number: Nathi

Category: Oral presentation