

4TH ANNUAL DIABETES CONGRESS & 5th World Congress on NURSING AND HEALTHCARE

April 15-16, 2019 | Milan, Italy

Phytochemical characterization of polyphenolic compounds by HPLC-DAD-ESI-MS and evaluation of lipid lowering capacity by aqueous extracts of Saharan plant *Anabasis aretioides* (Coss & Moq.) in normal and streptozotocin-induced diabetic rats

Farid O, Khallouki F, Breuer A, Owen RW and Eddouks M
Moulay Ismail University, Morocco

Anabasis aretioides (Coss & Moq.), a Saharan plant belonging to Chenopodiaceae family, is widely distributed in semi-desert area from the Tafilalet region of Morocco and this plant is extensively used by local population against diabetes and cardiovascular disorders. The purpose of the study was to investigate the effect of the aqueous *Anabasis aretioides* (A. aretioides) extract on lipid metabolism in normal and streptozotocin-induced diabetic rat and to determine the profile of polyphenolic compounds in this aqueous extract. In addition, the *in vitro* antioxidant activity of the aqueous A. *aretioides* extract was also evaluated. The effect of A. *aretioides* aerial part aqueous extract (A.P.A.E) (5 mg/kg) on plasma lipid profile was investigated in normal and streptozotocin (STZ) diabetic rats (n=6) after repeated once daily oral treatment during 15 days. The antioxidant potential of the aqueous extract was also demonstrated using test of DPPH (1-1-diphenyl 2-picryl hydrazyl) radical scavenging activity. Polyphenolic compounds in the extracts were

definitively characterized by high performance liquid chromatography-diode array detection-electrospray ionization-mass spectrometry (HPLC-DAD-ESI-MS).

Key findings: Oral administration of aqueous A. *aretioides* extract provoked a significant decrease of plasma cholesterol and triglycerides levels in diabetic rats while only a decrease on plasma triglycerides levels has been observed in normal rats. In addition, the phytochemical analysis revealed the presence of 12 polyphenolic compounds. Moreover, according to the DPPH (1-1-diphenyl 2-picryl hydrazyl) radical scavenging activity, the aqueous extract has exerted a significant antioxidant activity.

Conclusion: we conclude that aqueous A. *aretioides* extract exhibits lipid lowering and *in vitro* antioxidant activities. Many polyphenols are present in this extract and these phytoconstituents may be involved in the pharmacological activity of this plant.

mohamed.eddouks@laposte.net