

Effect of a Mexican endemic orchid, *Prosthechea karwinskii*, on metabolic syndrome induced in Wistar rats

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Prosthechea karwinskii is an endemic Mexican orchid used as ornamental and in the traditional medicine to treat diabetes and some problems related with inflammatory processes.

To determine the antioxidant activity (AA) and to validate the medicinal use of this orchid using a rat model, the hydroalcoholic extract from this plant was evaluated for treat conditions relate to the metabolic syndrome. An *in vivo* assay 25 weaned male Wistar rats were divided into a control group (CG; n = 5) and a Metabolic Syndrome group (n = 20); the latter were induced to metabolic syndrome with 40% sucrose in the drink water for 13 weeks, then this group was subdivided into 4 groups: Metabolic Syndrome (MS, n = 5) received sucrose, and three groups receiving 200 mg/kg of body weight of pseudobulb (P, n = 5), leaf (L, n = 5), and flower (F, n = 5) extracts. All treatments were followed for 13 days; at the end blood was collected to measure glucose, cholesterol and triglycerides. AA were measured in the extracts by DPPH method. L extract had highest values in AA, followed by F and P extracts. L extract had highest reducing effect on glucose level too, while F extract had highest reducing effect on cholesterol and triglycerides levels. The extracts evaluated here reduced glycemic and lipidemic parameters in Wistar rats with MS induced. These effects may be attributed to its high AA.