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The evaluation of hypoglycemic effects of some plants extract on induced diabetes in mice

Alexandru Octavian Doma, Romeo T Cristina, Eugenia Dumitrescu, Olga Rada and F Muselin

Banat's University of Agricultural Sciences and Veterinary Medicine, King Michael I of Romania (BUASVM) Timisoara, Romania

Statement of the Problem: Diabetes mellitus is a chronic disease that is characterized by a relative or absolute lack of insulin, resulting in hyperglycemia, being one of the most frequent diseases. The purpose of this study was to determine the hypoglycemic effect of some plants extract on Streptozotocin induced diabetes in mice.

Methodology: The study was conducted on 35 BALB/c mice divided in five groups: C- control group receiving distilled water, DC - diabetic control receiving distilled water, E1 - diabetic mice receiving 10% *Arctium lappa* extract, E2 - diabetic mice receiving 1% *Betula pendula* lyophilizate extract, E3 - diabetic mice receiving 5% *Althaea officinalis* extract. The diabetes was induced by I.P. administration of 200 mg/kg bw Streptozotocin is single dose, mice with glycaemia over 150 mg/dl were considered diabetic and those with over 200 mg/dl were considered to have severe diabetes.

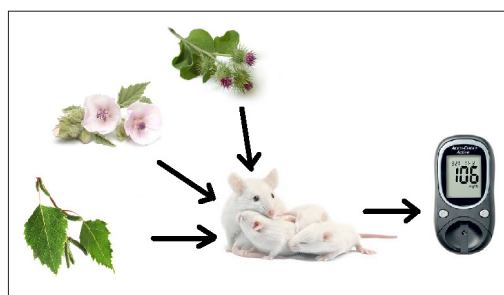


Figure-1: Schematic exposure of different plants on diabetic mice glycaemia

Findings: In diabetic rats we observed a significantly ($p < 0.05$) increase of body weight comparative to control and also we observed a significant ($p < 0.05$) increase of water consumption in diabetic rats in the first 24 hours, followed by a decrease of these possible due to the change in taste especially in E2 group. Administration of plants extract in groups E1, E2 and E3, decreased significantly ($p < 0.05$) the glycaemia comparative to DC group reaching the values to C group. The decrease of glycaemia in groups that received plants extract was graduated started after 24 hours after exposure until 120 hours after exposure: E1/DC 72 hours: -27.52%; E1/DC 120 hours: -41.02%; E2/DC 72 hours: -32.58%; E2/DC 120 hours: -43.07%; E3/DC 72 hours: -34.83%; E3/DC 120 hours: -37.43%.

Conclusion: Administration of studied plants extract proven to have a good hypoglycemic effect and could be recommended for the control of glycaemia.

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Biography

Alexandru Octavian Doma is pursuing his PhD in Faculty of Veterinary Medicine from Banat's University of Agricultural Sciences and Veterinary Medicine, King Michael I of Romania from Timisoara. He has built his experience in research, evaluation, teaching during the PhD period. He is the Secretary of Romanian Society for Trace Elements in Medicine.

dao_west@yahoo.com