

In Vitro Effect of Crude Extract from *Traganum Nudatum* on Glucose-Uptake in Liver Slices Isolated from Wistar Rats

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Abstract

Background: Diabetes mellitus is a metabolic disorder characterized by chronic hyperglycemia resulting from defects in insulin secretion, insulin action, or both. There are many classes of drugs used for treatment, and these include insulin sensitizers, insulin secretagogues, and agents that delay the absorption of carbohydrates from the bowel. This study intends to investigate the effect of crude extract from a plant from South Algeria *Traganum nudatum* (Chenopodiaceae) on glucose uptake in liver slices isolated from Wistar rats.

Methods: The liver slices were incubated for 90 min at 37° in normoglycaemic (1g/l of glucose) and hyperglycaemic (3g/l of glucose) KRBA Krebs Ringer Bicarbonate Albumin 4% media using 24 well-polyethylene plates. In each, well different concentrations of insulin (10, 50 and 100µU/ml) and hydromethanolic crude extract (100, 200 and 500µg/ml) were added. After every 30 minutes, aliquots of the culture media were assayed for the determination of glucose left.

Results: Tests showed that the glucose left after 90 minutes in the media which contained insulin at 100µg/ml was the lowest (0.44 and 1.41)g/l in the normo and hyperglycaemic media respectively, which reflect that insulin at this concentration was the most effective on the stimulation of glucose uptake. The extract had the highest effect at 500µg/ml, the concentrations of glucose left after 90 minutes of incubation were found to be (0.38 and 1.31)g/l in the normoglycaemic and hyperglycaemic media respectively.

Conclusion: From the obtained results, it can be concluded that our extract seems to have an insulin-like effect on glucose uptake in liver slices isolated from Wistar rats.

Keywords: Diabetes Mellitus, Insulin, Glucose Uptake, Liver Slices, *Traganum Nudatum*

1. Conflict of interest statement

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2. Authors' biography

No Biography.

3. References

No references