

Study on *Hypericum perforatum* and *Aloe vera* effects on function of rat pancreatic islets

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Background and Aims: Effects of extracts of *Hypericum perforatum* and *Aloe vera* were examined on the function of isolated rat pancreatic islets.

Methods: Islets were isolated and exposed to different doses of *Hypericum perforatum* (HP) in doses of 0.001, 0.01, 0.1 and 1 mg/ml and the *Aloe vera* (AV) in doses of 0.01, 0.1, 1 and 10 mg/ml. The rate of insulin secretion was tested and also production of reactive oxygen species (ROS) and cells viability were measured by use of fluorometric methods and MTT, respectively.

Results: By increasing the concentrations of HP and AV, the viability of cells were increased. HP at 0.01 mg/ml increased insulin secretion in response to glucose in both basic and stimulation levels. This extract at 0.001 and 1 mg/ml doses only increased insulin concentration in basic levels of glucose. No positive effect on insulin releasing was observed for AV in different doses. Also the result of ROS test showed that only AV at 0.1 mg/ml can reduce ROS.

Conclusions: Both extracts are positive in improvement of viability of isolated cells but only HP enhances insulin secretion and only AV has significant anti oxidative effects.

Keywords: *Hypericum perforatum*; *Aloe vera*; Insulin secretion; Isolated rat pancreatic islets