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Antidiabetic effect of *Ruta montana* L. in streptozotocin-induced diabetic rats

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The effect of an aerial part aqueous extract (APAE) of Ruta montana (L.) (RM) at a dose of 5 mg/kg on blood glucose levels was investigated in normal and streptozotocin (STZ) diabetic rats. In this study, histopathological changes were also evaluated in liver and pancreas both in normal and STZ rats. Additionally, the effect of this aqueous extract on glucose tolerance in normal rats was demonstrated. Furthermore, the relative organs weight (R.O.W) of liver, kidney, pancreas and brown adipose tissue were evaluated after 15 days of daily oral administration of the aqueous extract. Both a single and repeated oral of the APAE aqueous extract (5 mg/kg) produced a significant decrease on blood glucose levels in normal and STZ rats. According to the oral glucose tolerance test, the aqueous extract of RM APAE (5 mg/kg) was shown able to improve the increase on blood glucose levels in normal treated rats 30th min ($p<0.01$) and 90th min ($p < 0.001$) after administration of 3 g/kg of glucose. We conclude that RM aqueous extract exhibits a potent hypoglycemic effect in normal rats and antidiabetic effect in STZ rats. This finding supports the use of this plant in the traditional Moroccan use for diabetes management.

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Cardiovascular effect of Nigella sativa L. aqueous extract in normal rats

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The present wok aims to evaluate the cardiovascular effect of Nigella sativa L. aqueous extract (NSAE) in normal rats. The in vivo experiment showed that the intravenous injection of NSAE at the doses of 50, 100 and 200 mg/kg of body weight produced a dose dependent reduction in the mean arterial blood pressure (MABP) ($p<0.001$) accompanied by a significant fall in heart rate ($p<0.01$). In the in vitro experiment, NSAE was tested at the doses of 10, 20 and 30 mg/ml. Addition of NSAE to the plateau contraction induced by Norepinephrine (NE) produced a dose dependent reduction in the arterial tone ($p<0.01$). Furthermore, incubation of NSAE during 30 min caused a right shift of the contraction response curve of aortic ring to NE with a reduction of the maximal contraction response ($p<0.01$). Endothelium destruction significantly reduced the vasorelaxant effect of NSAE at a dose of 30 mg/ml ($p<0.01$). Furthermore, Nitric oxide synthase inhibitor: N -Nitro-L-Argenine Methyl (L-NAME) produced a significant reduction ($p<0.01$) of the in vitro vasorelaxant effect of NSAE at a dose of 30 mg/ml. We conclude that NSAE possess a rapid and dose dependent in vivo hypotensive effect in normal rats which may be probably due to the inhibition of parasympathetic tone. In isolated aortic ring, NSAE possess a potent inhibitor of contractile response to NE which may be probably due to an increase in the endothelial nitric oxide synthesis. This work was supported by the CNRST under grant N° PPR/2015/35.

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