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## Cypermethrin and medicinal plant antagonist effects on glycaemia in healthy animal model

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**Background:** Uncontrolled and excessive uses of insecticides, in agriculture, will expose the human and animal health to a high risk of chemical toxicity. Cypermethrin (CYP), as pesticide, is widely handled in tomato growing fields in Algeria. In addition to brain and lung tissue damage, CYP induced metabolic disorders. Medicinal plants widely used, as folk remedies, by rural population. This study aimed to compare both medicinal plant and CYP effects on blood glucose level in rats.

**Materials & Methods:** Experiments conducted in 30 days, on 70 rats, divided into seven groups: A (controls), B (CYP at 20 mg/kg~<1/10 DL50), C (*Artemisia herba alba*), D (*Myrtus communis*), E (*Eucalyptus globulus*), F (*Cinnamomum verum*), G (*Ocimum sanctum*). CYP and aqueous plant extracts (as hot decoction at 50 g/L) were orally administered to animals.

**Results:** A significant difference in body weight gain was reported (respectively, 54.67, 15, 39.67, 12.65, 8.34, 39.63 and 4.66 g). No significant different results found about blood glucose levels and their mean values were respectively,  $0.82\pm 0.01$ ,  $0.94\pm 0.03$ ,  $1.51\pm 0.17$ ,  $0.73\pm 0.08$ ,  $0.72\pm 0.05$ ,  $0.71\pm 0.03$  and  $0.81\pm 0.02$  g/L. Furthermore, serum levels of renal markers showed slight variation such as urea (respectively,  $0.66\pm 0.02$ ,  $0.61\pm 0.05$ ,  $0.83\pm 0.03$ ,  $0.47\pm 0.13$ ,  $0.52\pm 0.05$ ,  $0.72\pm 0.01$  and  $0.44 \pm 0.2$  g/L) and creatinine (respectively  $7.4\pm 0.2$ ,  $8.17\pm 0.14$ ,  $9.6\pm 1.25$ ,  $6.56\pm 1.38$ ,  $7.13\pm 0.07$ ,  $7.63\pm 0.64$  and  $8.23\pm 0.08$  mg/L).

**Conclusion:** Medicinal plants, used in this study, showed more or less significant hypoglycemic effects in contrast to CYP slightly hyperglycemic. Other studies are expected to consolidate this thesis.

### Biography

Abdelkrim Berroukche is currently a Lecturer and Teacher-Researcher, Biology Department, Faculty of Science, University of Saida, Algeria. He has received his PhD in Cell Biology and Nutrition (with Oncology option) from University of Sidi-Bel-Abbes, Algeria. He is Member of Editorial Board of two scientific reviews and is a Peer Reviewer in several journals. He has 32 publications: 30 journal articles and 2 books. He is the Head of research team affiliated to Laboratory of Water Resources and Environment, Biology Department, Faculty of Science, University of Saida, Algeria.

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