Diuretic Activity of non Polar Parsley Seed Fractions

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The aim of the present research is to study the diuretic effect of petroleum ether extract and volatile oils of parsley seeds in 3 different doses (500, 600 and 750 mg/kg rat body weight) in rats through Lipschitz test. The mechanism of the diuretic activity was studied through determination of saluretic, natriuretic and carbonic anhydrase inhibition indices in comparison to furosemide. In addition the effect of administration of the bioactive fractions on glomerular and tubular functions were also assessed in experimental model of lithium. Phytochemical analysis of unsaponifiable matter was carried out using GLC. While the constituents of the volatile oil were determined by GC/MS. **Results**: Both fractions showed diuretic activity in all the studied doses with different degrees and variation in saluretic effect. The mechanism of action tested in lithium model in rats showed that urinary excretion of creatinine was significantly higher than the control on administration of either of the tested fractions. While creatinine clearance (Cr_{cl}) was only significantly higher on administration of parsley seed volatile oil. Phytochemical study showed that unsaponifiable matter of parsley seed contains 87.84 % as hydrocarbons. It also contains stigmasterols, β-sitosterol and campesterol in addition to α-amyrin. Volatile oil of parsley seeds was shown to contain 70.22% as monoterpens and 27.28% as aromatic compounds. The major compounds were α-pinene (23.14%), limonene (22.7%), β-pinene (17.53%), myristicin (13.76%) and apiol (12.79%). **Conclusion:** Petroleum ether extract and volatile oil of parsley seeds possess efficient diuretic activity with significant increase in creatinine urinary excretion. Administration of parsley seed volatile oil induced significant increase in Cr_{cl}. Both fractions showed variation in saluretic effect. Diuretic activity may be attributed to the presence of sterols and specific volatiles.