Participation of GABA-benzodiazepine Receptor Complex in the Anxiolytic Effect of Passiflora alata Curtis (Passifloraceae)

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SUMMARY. Passiflora alata Curtis is used in Brazilian folk medicine and also by pharmaceutical industry due to its tranquilizing properties. In this work, the central activity of an aqueous (AQ) and an hydroethanolic (HE) leaves extracts were evaluated in elevated plus maze, barbiturate sleeping time, open field and [3H]flunitrazepam binding assays. The only effect presented by AQ (300 mg/kg, p.o.) was on the barbiturate sleeping time, indicating a hypnotic effect. The HE extract (300 and 600 mg/kg, p.o.) also increased the barbiturate sleeping time and reduced the locomotor activity (at 600 mg/kg, p.o.), pointing to a sedative effect. In addition HE showed an anxiolytic-like effect (300 mg/kg, p.o.) in the elevated plus maze test which was blocked by flumazenil (6 mg/kg, i.p.). Nevertheless HE did not displace [3H]flunitrazepam binding to rat brain synaptosomes in concentrations up to 1000 μg/mL. As a conclusion, we showed that the anxiolytic effect of P. alata in mice depends on the dose and solvent used for the extract preparation, and this effect cannot be attributed to the direct activation of the central benzodiazepine site by the chemical constituents of the extract. It is possible that their metabolites or an indirect effect on benzodiazepine-GABA$_A$ receptor complex mediate the observed anxiolytic effect.

KEY WORDS: Anxiolytic, Passiflora alata, Sedative.

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