



Effects of Commonly Used Solubilizing Agents on a Model Nerve-Muscle Synapse

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SUMMARY. Solubility represents a limiting factor when testing new compounds in animal experiments, since solubilizing agents generally have pharmacological effects that can interfere with the studied substance. Vehicles are commonly used for solubilizing certain substances including apolar and polar extracts obtained from medicinal plants. In this study, fifteen vehicles were investigated on mice neuromuscular preparations. A known *in vitro* neuroblocker myotoxin from *Bothrops jararacussu* venom, bothropstoxin-I, was used as a pharmacological tool for testing the medicinal potential of apolar and polar extracts (hexane, dichloromethane, ethyl acetate and methanol) obtained from *Casearia sylvestris* Sw. leaves, which in turn were used for testing their solubility and concomitantly to produce no change on basal response of indirectly stimulated mouse phrenic nerve-diaphragm preparations. Taken together *in vitro* biological system and extracts solubility, our results showed that dimethyl sulphoxide and polyethylene glycol 400 were the better vehicles, and methanol extract solubilized on PEG 400 was the only one able to act against the paralysis induced by the myotoxin. Thus, this study points out to the relevant role that vehicles exhibit for extracting the potential pharmacological activity of plants in a given test system.

KEY WORDS: Medicinal plant extract, Neuromuscular junction, Solubility.

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