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ABSTRACT

An Investigation Into The Pharmacological Activity
Of A *Symphytum officinale* Extract, With
Special Emphasis On The Cardiovascular Actions

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Symphytum officinale is a medicinal plant which is locally used in the folk-treatment of a number of ailments including gastric ulcers, swellings associated with sprains, hypertension and asthma. This study was embarked upon in order to determine pharmacological effects of an extract prepared from the *Symphytum officinale* plant on the cardiovascular system and bronchiolar smooth muscle of laboratory animals.

Chloroform soluble constituents were removed from milled dried leaves and stems. The residual plant material was extracted by Soxhlet extraction using an acidified alcoholic solvent. A water soluble extract subsequently obtained from this acidified alcoholic fraction was used in the investigations.

The prepared extract of *Symphytum officinale*, on

intravenous administration in anaesthetised laboratory animals, produced a pressor as well as a more prominent, dose-related depressor effect on the blood pressure. The pressor effect is likely due to a vasoconstrictory action since the plant extract produced contraction in the rat aortic strip preparation. This vasoconstrictory action was not blocked by the α -adrenoceptor blocker, phentolamine. The plant extract exhibited dose-related negative inotropic and chronotropic effects on the isolated Langendorff rabbit heart. This cardio-depressant action of the plant extract contributes to the depressor effect produced on the blood pressure of anaesthetised laboratory animals. The cardio-depressant effect was not antagonised by atropine, a muscarinic receptor blocker. Findings from this study also indicate that the plant extract antagonised ouabain-induced arrhythmias *in vivo* and *in vitro*.

The plant extract also contracted isolated bronchiolar smooth muscle of the guinea pig. This action was not blocked by atropine or pyrilamine.