

ABSTRACT

AN INVESTIGATION OF A HYPOTENSIVE EXTRACT  
FROM THE ROOTS OF Moghania strobilifera  
(WILD HOPS).

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Moghania strobilifera is a plant that is used in folklore medicine in the removal of kidney stones (renal calculi). Screening of a root extract from this plant revealed hypotensive properties. The plant roots were washed, dried and milled to produce a powder. Pigment was removed from this powder with chloroform and acetone. The powder was then extracted with alcohol which was subsequently evaporated and the residue dissolved in water. This water-soluble extract when injected intravenously into urethane-anaesthetized female rats, consistently produced a fall in blood pressure.

An investigation of the hypotensive action revealed that it was largely peripheral, as the action persisted in pithed rats. The hypotensive agent did not appear to act via known receptors as indicated by the absence of any significant change in its effect after the use of the specific receptor blockers.

Experiments on isolated preparations such as the rat uterus, rat duodenum, guinea-pig ileum and the central artery of the rabbit ear revealed no effects on these preparations at

normal hypotensive doses of the extract. However, when the extract was combined with rat's blood, different responses resulted. For example, when the extract was incubated at room temperature with rat's blood, the mixture contracted the rat uterus. The blood - extract combination also produced relaxation of the rat duodenum and the guinea-pig ileum. It should be noted however, that neither the extract nor blood alone had any effect on these preparations.

Further studies with combinations of the extract and the separated components of blood, revealed that only the blood cell-extract combination produced similar effects on the isolated preparations as well as a hypotensive effect. Therefore, the hypotensive action of this extract appears to be due to an agent which is released or formed by the combination of blood cells and the extract.