

New vasorelaxant indole alkaloids, villocarines A-D from *Uncaria villosa*.

ABSTRACT

Villocarines A–D (1–4), four new indole alkaloids have been isolated from the leaves of *Uncaria villosa* (Rubiaceae) and their structures were elucidated by 2D NMR methods and chemical correlations. Villocarine A (1) showed vasorelaxation activity against rat aortic ring and showed inhibition effect on vasoconstriction of depolarized aorta with high concentration potassium, and also inhibition effect on phenylephrine (PE)-induced contraction in the presence of nicardipine in a Ca²⁺ concentration-dependent manner. The vasorelaxant effect by 1 might be attributed mainly to inhibition of calcium influx from extracellular space through voltage-dependent calcium channels (VDC) and/or receptor-operated Ca²⁺-channels (ROC), and also partly mediated through the increased release of NO from endothelial cells and opening of voltage-gated K⁺-channels.

Keyword: Villocarine A-D; *Uncaria villosa*; Indole alkaloids; Rubiaceae; Vasorelaxant activity.