

Relaxant effects of *Achillea wilhelmsii* on guinea-pig tracheal chains

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Abstract

Achillea wilhelmsii have been used in folk remedies and its different pharmacological effects including relaxant effect on some smooth muscle was demonstrated. Therefore in the present study, the relaxant effects of the extract of *Achillea wilhelmsii* on tracheal chains of guinea pigs were examined. The relaxant effects of four cumulative concentrations of the extract (2, 4, 8 and 16 mg/ml) in comparison with saline as negative control and four cumulative concentrations of theophylline (0.2, 0.4, 0.8 and 1.6 mM) were examined by their relaxant effects on precontracted tracheal chains of guinea pig by 10 μM methacholine (n = 11). All concentrations of theophylline and three last concentrations of the extract (4, 8, and 16 mg/ml) showed significant relaxant effects compared to that of saline (p < 0.001 for all cases). However, the relaxant effects of three lower concentrations the extract (2, 4, and 8 mg/ml) were significantly less than those of theophylline (p < 0.01 to p < 0.001). There were significant positive correlations between the relaxant effects and concentrations for both theophylline and the extract (p < 0.001 for both cases). These results showed a relatively potent relaxant effect for the extract of *Achillea wilhelmsii* on tracheal chains of guinea pigs.

Reaxys Database Information

Author keywords

Achillea wilhelmsii; Extract; Guinea pig; Relaxant effects; Trachea

Indexed Keywords

EMTREE drug terms: *Achillea wilhelmsii* extract; bronchodilating agent; methacholine; plant extract; sodium chloride; theophylline; unclassified drug

EMTREE medical terms: *Achillea*; animal experiment; animal model; article; bronchodilatation; controlled study; drug potency; female; guinea pig; male; nonhuman; trachea muscle; trachea stenosis; traditional medicine

Chemicals and CAS Registry Numbers: methacholine, 55-92-5; sodium chloride, 7647-14-5; theophylline, 58-00-9, 5967-84-0, 8000-07-0, 8061-06-1, 99007-19-9

Manufacturers: Drug manufacturer: Sigma, United Kingdom.

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