

عنوان مقاله:

Hydro-alcoholic extract of *Matricaria recutita* exhibited dual anti-spasmodic effect via modulation of Ca²⁺ channels, NO and PKA2-kinase pathway in rabbit jejunum

محل انتشار:

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خلاصه مقاله:

Objective: Several studies have shown the antispasmodic activity of *Matricaria recutita* without detailing the underlying mechanism(s). The present study was designed to determine whether the antispasmodic mechanisms of *M. recutita* extract mediated via histaminergic/cholinergic receptors, Ca²⁺ channels, activation of PKA2 and NO release in isolated rabbit jejunum. Methods and Materials: The concentration- dependent (3×10^{-3} – 1.3×10^{-2} mg/ml) antispasmodic effect of the hydro-alcoholic extract of *M. recutita* flowers was studied in isolated rabbit jejunum. The isolated jejunum preparations were divided into seven groups, including the pharmacological probes that modulate cholinergic, histaminergic, and nitrgic receptors, as well as PKA2. Results: *M. recutita* inhibited spontaneous smooth muscle contractility of the jejunum in a concentration-dependent manner (3×10^{-3} – 1.3×10^{-2} mg/ml) and reduced both K⁺- and Ca²⁺-induced contractions, which is similar to the effect of verapamil. The antispasmodic effect of *M. recutita* was inhibited by H89 (a PKA2 inhibitor). The myorelaxant effect of *M. recutita* increased in the presence of ACh/His and H89. Conclusion: *M. recutita* evoked antispasmodic and spasmolytic effects mediated through different signaling pathways. Our results have shown this dual inhibitory effect is mediated by blocking Ca²⁺ channels, activating His and ACh receptors, releasing NO, and activating PKA2

کلمات کلیدی:

Matricaria, Cholinergic Agents, Histamine Agents, Jejunum, Rabbit, Nitric oxide

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