Analgesic and anti-inflammatory activity of stereoisomers of carane derivatives in rodent tests

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Abstract:
Our previously conducted pharmacological investigations led us to discovery of the strong local anesthetic activity of the compound KP-23RS. The following studies revealed that its R- and S-diastereoisomers had different activity in the local anesthetic, anti-aggregating, anti-arrhythmic and spasmolytic tests. Also the influence of KP-23RS and its diastereoisomers on the cyclic adenosine monophosphate (AMP) generating system was described. In the present study, anti-inflammatory and analgesic effects of these compounds were investigated in hind paw edema test, Randall’s analgesia test and hot-plate test. Also the spasmolytic activity and the influence on the stomach mucous membrane were examined. All of these compounds had an anti-inflammatory and analgesic activity in hot-plate test and in Randall’s test. Moreover, compound KP-23R showed spasmytic activity. None of the investigated compounds induced damage of the mucous membrane of the rat stomach.

Key words:
carane derivatives, diastereoisomers, lidocaine, anti-inflammatory activity, analgesic activity, hot-plate test