

PLENARY PRESENTATIONS

ANTIARRHYTHMIC AGENTS BASED ON DITERPENOID ALKALOIDS

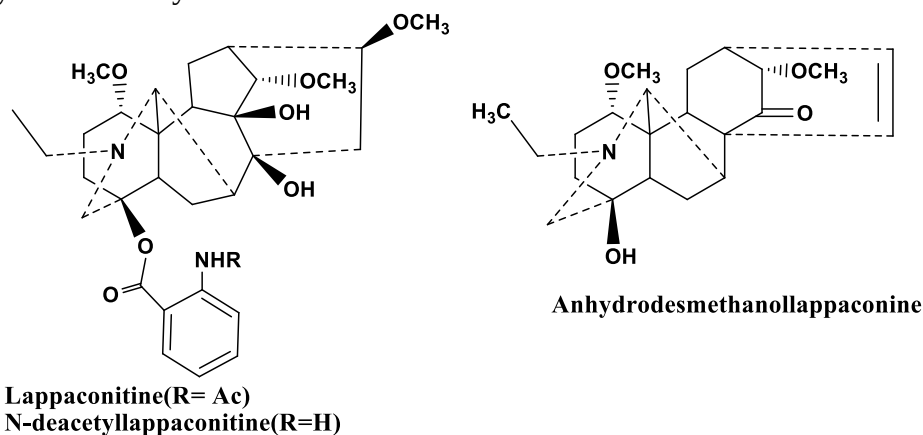
M.S Yunusov, E.M.Tsyrlina

Ufa Institute of Chemistry, Ufa Federal Research Centre of the Russian Academy of Sciences. 450054, Russia, Ufa, 69 prospect Oktyabrya, faks: 7 (347) 235-60-66, e-mail: msyunusov@anrb.ru

Pharmacotherapy of cardiac arrhythmias, despite advances in the development and use of new antiarrhythmic drugs, remains a challenging task.

Many years of collaborative work by botanists, chemists, and pharmacologists has shown that certain diterpenoid alkaloids and their derivatives are unique antiarrhythmic agents.

Diterpenoid alkaloids, which share the same skeleton and similar functionalities, can possess both arrhythmogenic and antiarrhythmic properties. A number of relationships between structure and antiarrhythmic (arrhythmogenic) activity have been identified. This relationship allows for the targeted production of compounds with pronounced antiarrhythmic activity.



The drug Allapinin was introduced into medical practice in 1986. Preclinical studies of the complex drug Alaglurin were completed. Work is underway to create an injectable form based on N-deacetylappaconitine. Work has begun on the development of highly effective antiarrhythmic agents based on anhydrodesmethanollappaconine—a product of the pinacol rearrangement of lappaconine—and its derivatives.

This work was completed under topic No. 125020601629-0, "Targeted chemical transformations of natural plant compounds (terpenoids, alkaloids, flavonoids, lipids, carbohydrates) for the development of promising drugs for the prevention and treatment of a number of socially significant diseases".