

**Kučera, J.: Synthesis of monoquaternary pyridinium reactivators of acetylcholinesterase. Diploma Thesis. Charles University, Faculty of Pharmacy, Department of Pharmaceutical Chemistry and Drug Control, Hradec Králové 2008**

**Summary**

Organophosphates are substances commonly used in agriculture as pesticides (metathione, malathione, Actellic, In-stop), in industry as hydraulic liquids, plasticizers, flame retardants. They are also used in human and veterinary medicine as drugs or for examination of neurological functions. Nerve agents are based on the same chemical structure. It is relatively easy and cheap to produce them, to use them for military purposes and misuse them by terrorist organizations. There are frequent intoxications of labourers in agriculture or in industry as well. Present treatment of organophosphate intoxication includes administration of acetylcholinesterase reactivators, atropine and diazepam. None of the currently available commercial reactivators is able to reactivate satisfactorily acetylcholinesterase inhibited by different types of organophosphates. The aim of the work was the synthesis and in vitro testing of new compounds with hypothesized reactivation efficiency.