

Abstract

Vašíčková A.: Alkaloids of *Vinca minor* L. and their biological activity (inhibition of human cholinesterases) V. Diploma thesis, Charles University, Faculty of Pharmacy in Hradec Králové, Department of Pharmaceutical Botany, Hradec Králové 2020.

From the selected fraction VM 215–258 were isolated 3 alkaloids by flash chromatography followed, preparative thin layer chromatography and crystallization. Their structure was determined by mass spectroscopy, NMR and optical rotation, and the obtained data were compared with those in literature. Strictamine and minovincinine belong to alkaloids previously isolated, the alkaloid AV-3 has not been isolated yet. These alkaloids were tested for their ability to inhibit human cholinesterases and their inhibitory activity was compared to standards galanthamine and physostigmine. Compound AV-3 showed mild inhibitory activity against BChE ($IC_{50} \mu M > 86.3 \pm 2.3$), other alkaloids were considered inactive, their IC_{50} values against cholinesterases were $> 100 \mu M$.

Key words: *Vinca minor* L. (Apocynaceae), vinca alkaloids, minovincinine, strictamine, Alzheimer's disease, acetylcholinesterase, butyrylcholinesterase.