ABSTRACT

Diploma thesis in the first section brings information about sublingual administration of drugs and a comprehensive overview of tumors including the actual incidence of malignant diseases in the Czech Republic.

The second section of the theoretical part focuses on the possibility of chemotherapy and mainly on treatment with antimetabolites. Specifically with methotrexate, a folic acid analogue, to which is dedicated next section. Folic acid is also used as a model permeant in the following experimental part of the work.

The experiment is focused on the permeation of caffeine in the function of membrane integrity marker and folic acid through sublingual membranes of pig tongue. Folic acid was dispersed in 6 different vehicles and also with the use of a donor membrane. New original results were obtained, namely values of fluxes.

Average values of caffeine fluxes through trypsinized and native membrane do not differ. It can be considered as the main result obtained.

Conversely, folic acid penetrates easily through trypsinized sublingual membrane than through the native membrane. Important as well is confirmation of the assumption, that folic acid permeates in most measurements from more hydrophilic vehicles, namely for example phosphate buffer pH 7.4 had the average flux value **J** = 66.9 [$\mu g/cm^2.h^{-1}$] ± 8.5 EM1 and dispersion value **J** = 50.5 [$\mu g/cm^2.h^{-1}$] ± 6.6. High permeation was measured using IPM hydrophobic vehicle **J** = 62.0 [$\mu g/cm^2.h^{-1}$] ± 17.4.