1.2. Souhrn v anglickém jazyce

This thesis deals with usage of cell tumour markers for identification of appropriate treatment of breast carcinoma. We focused primarily on the dependence of marker values on pantients' age.

The theoretical part of the thesis contains all theory necessary for the practical part. First, we explained the definition of tumour markers and especially we described so called cell markers, i.e. ER, PR and HER2/neu which we examined in the practical part. Then we described the recommended treatment in dependence on marker values. Subsequently there is a description of methods for taking of cancer tissue for analysis because samples tested in the practical part are taken by different methods. In the end we described basics of testing of statistical significance and especially Wilcoxon rank-sum test.

In the practical part we analysed the values of cell markers of tissues which were taken in a hospital in Jihlava between 2000 and 2007. First we checked development of the results during the time (since the foundation of the lab). With respect to the fact that the results differed depending on the used chemicals, we used for the subsequent analysis data from a reduced time period in which the results were most stable. Then we used those data for the analysis of dependence of markers on patients' age. We displayed the data in charts and we identified from them the age periods for which there was a suspicion that marker values were different. Thereafter we tested those periods with the Wilcoxon rank-sum test in order to find out whether it is a random fluctuation or a statistically significant change. It was proven that ER and PR values decrease significantly after the menopause and thereafter they elevate. On the contrary the dependence of the third marker HER2 on age was not proven statistically.