ABSTRACT

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Title of diploma thesis: Evaluation of the interlaboratory variability of exaqmination of receptor markers of the breast cancer

In this diploma thesis, we are focused on the question of the breast cancer. We chose the bioanalitical access to estrogens and progesterone receptors (ER and PR). These receptors are important for deciding of treatment method.

We divided a practice part to two partitions. In the first one, we try to consider statistically a sensitivity of the methods of the diferent laboratories. In the sekond one we comparted the processed records from the hospital Pardubice.

In terms of practical part, ER and PR data from diferent scientific intrnational literature were processed and categorized. We were focused to the diference of the amount of patiens, the number of ER (+) and PR (+), on the year of study. In several cases we found even the statistical increasing of ER investigation sensitivity – on the basis of the increasing amount of positive patient.

Our other aim was to compare the statistical results of Pardubice imunohistochemical laboratories in by us constructed graphs in term of positivity boundary. We also tried to consider, which positivity boundary would be acceptable to bring the Pardubice laboratory near to the old results from different labs in years when the deciding about suitable bondary for tamoxifen treatment was performed. We could incline to adjusted the lower 2 % border of positive cells for ER (+) Pardubice´s patients. In case of PR (+) patients it is impossible to decide clearly. We incline more likely to the higher border of positivity (may be 5-10 % of cells). We must say, that ours results are only basic-statistical, with statistical uncertainty.

We pointed out in detail how big the risk of errors occur when the specimen is examined, for example, using only 100 cells.

This diploma thesis could be helpfull for the physicians which are working in this problem and it could help to develop the next more accurate analytical procedures.