

SUMMARY

In the theoretical part of the work we briefly discuss about composition of the breast, general questions about carcinogenesis in this localization and some of the features of the breast cancer. Below we show in several statistical data.

We describe diagnostic order from first contact of the patient with doctor to time of the determination of definitive diagnosis. We mention basic principles of morphological classification of the tumors as well as international classification of the tumors published by World Health Organization, basic rules how to define staging, grading, prognostic and predictive markers of the breast cancer.

We concentrate on determination of these five tumor markers: estrogen and progesterone receptors, protein HER-2/neu, proliferation marker Ki-67, and tumor suppressor protein p53. We explain value of examination those markers for later on use for hormonal and biological treatment.

Today routine is to do examination of hormonal receptors (estrogen and progesterone) and onkoprotein HER-2/neu to every patient with invasive breast cancer. The other markers such as proliferation marker Ki-67 and expression of the protein p53 help us to predict prognosis of the illness.

In the practical part we shortly describe process of the tissue examination with standard histological technique and after we more extensively describe the main subject of our interest – imunohistochemical examination of the tumor tissue. We will go throught the working steps with the short description of each one and we will point out those parts which are the most important for correct running of imunohistochemical reaction.

We processed the results of imunohistochemical examination of our markers (estrogen and progesterone receptors, onkoprotein HER-2/neu, proliferation marker Ki-67 and tumor suppressor protein p53). The examination was done on material obtained from patients with invasive breast cancer from the year 2009 in Faculty Hospital Hradec Králové.

At the end, information which we obtained, we put into the tables and graphs and we assessed corelation between our markers and age of the patients. After all we compare results from needle biopsies before and after operation. These results we compare depending on grading of the tumors.